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ABSTRACT

One of a series of eleven curriculum manuals which cover the four transportation topics of public transportation, transportation and the environment, transportation safety, and bicycles for elementary, secondary and adult levels, this manual covers the topic of bicycling for grades 6-9. The manual contains forty-seven learning activities grouped into ten mini-units. Each mini-unit consists of a lesson plan component and an individual learning activities component. The first mini-unit provides a survey of issues related to bicycles; the rest are as follows: studying the recreational and commuting uses of bicycles, identifying safe bicycling practices, investigating why many people ride dangerously, considering how to encourage other people to ride safely, studying how to buy a bicycle, learning to maintain a bicycle, investigating the prevention of bicycle theft, identifying when and how to seek redress of grievances, and identifying and promoting bicycle facilities. A final section offers additional activities that may be used to evaluate or supplement evaluation of an activity or mini-unit. Also included are references for further study resources and masters for reproduction of role profiles, game boards, maps, and other distributable materials. (A curriculum guide, CE 014 028, is also available for use with the manuals.) (TA)

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PEDAL ON!

MINI-UNITS AND LEARNING ACTIVITIES ON BICYCLES

for

grades 6 through 9

by

Peter Finn
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Abt Association Inc.
Cambridge, Massachusetts 02138

Abt Publications
1977

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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TEACHING TRANSPORTATION: AN OVERVIEW

> Nearly everything Americans do, from mailing a postcard to walking on the moon, depends on transportation. Transportation is essential for the supply of food, clothing and shelter, for national defense and employment, for education and recreation, for the international exchange of goods and services.*

While every American is provided with the necessities and amenities of modern life through an intricate freight-carrying network, we think of transportation most readily in terms of moving people, not products, and for good reason. Millions of us commute to work every day by car, bus, train, or subway. Moreover, 21 million youngsters travel on school buses every day. Americans use a variety of transportation modes for other purposes, including shopping, recreation, tourism, and moving. The average family changes residence once every five years and makes use of one of the many thousands of for-hire companies that provide domestic surface transportation. In addition, Americans travel more than 1.7 trillion miles by passenger cars or trucks every year, while AMTRAK's 250 trains cover 26,000 miles and service 484 communities with more than 7 million people annually using the New York to Washington run alone. There are also 950 intercity bus companies whose 20,600 vehicles travel 1.1 billion miles each year, and commercial aircraft transport over 210 million passengers annually.

Americans are also highly dependent on transportation services for recreation purposes. Not only are vehicles used to get to places of entertainment, many vehicles are themselves forms of recreation. For example, there are approximately 7.3 million registered boats in the country, not counting rowboats and canoes. Seven and one-half million motor homes, truck campers, and travel and camping trailers are on the roads. Snowmobiles, dune buggies, and home-built vehicles have become widespread in the past few years.

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*John Burby. *The Great American Motion Sickness.* Little, Brown and Co.; Boston: 1971, page 3.

Americans also relax on two-wheeled vehicles: there are 100 million bicycles and nearly five million motorcycles in the country, many of which are used for commuting as well as recreation.

The most frequently used form of transportation in the nation, however, is walking. We sometimes forget that pedestrians utilize the single most common mode of travel.

Finally, the overwhelming importance of transportation in our lives must be assessed not only in terms of movement of goods and people but also in relation to the millions of jobs transportation provides. Transportation facilities and vehicles require manufacturers, builders, operators, and mechanics, while also creating thousands of employment opportunities in related industries, from foundries that produce steel for vehicles to insurance companies that provide automobile insurance to health care systems that treat travel-related injuries.

For all these reasons it is important for students to become aware of transportation as it affects their lives, to learn to be wise purchasers and users of transportation goods and services, and to develop skills to promote constructive use and appropriate expansion of all forms of transportation in their communities and beyond.

In particular, consumers should become informed about (1) improving and using public transportation, (2) harmonizing the environment and transportation, (3) understanding transportation safety, and (4) perceiving the importance of bicycling. By examining these four major topics, students will learn, for example, to identify the best methods for commuting to school and work: to travel, when possible, in ways which minimize adverse transportation effects on the environment; and to purchase and use transportation vehicles and facilities with maximum safety.

CURRICULUM MATERIALS AVAILABLE

This Manual is one in a series of volumes that treat, at different grade levels, the four transportation topics of Public Transportation, Transportation and the Environment, Transportation Safety, and Bicycles. These volumes were developed by Abt Associates Inc. under contract to the U.S. Department of Transportation, Office of Consumer Affairs. The following 11 Manuals and the Curriculum Guide on transportation consumer education are currently available:

- Travel On! Mini-units and Learning Activities on Transportation for Grades K-3
- Travel On! Mini-units and Learning Activities on Transportation for Grades 4-6
- Transportation Consumer Education for Adults: Mini-units and Learning Activities
- Pedal On! Mini-units and Learning Activities on Bicycling for Grades 6-9
- Pedal On! Mini-units and Learning Activities on Bicycling for Grades 9-12
- Ride On! Mini-units and Learning Activities on Public Transportation for Grades 6-9
- Ride On! Mini-units and Learning Activities on Public Transportation for Grades 9-12
- Getting There! Mini-units and Learning Activities on Transportation Safety for Grades 6-9
- Getting There! Mini-units and Learning Activities on Transportation Safety for Grades 9-12
- Transportation and the Environment in Harmony: Mini-units and Learning Activities for Grades 6-9
- Transportation and the Environment in Harmony: Mini-units and Learning Activities for Grades 9-12
- Transportation Consumer Education: A Curriculum Guide for Grades K-12 and Adult

These volumes may be ordered from
Abt Publications
55 Wheeler Street
Cambridge, MA 02138

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The National Highway Traffic Safety Administration (NHTSA)

The United States Coast Guard

The Federal Aviation Administration (FAA)

The Federal Highway Administration (FHWA)

The Office of Environmental Affairs in the U.S. Department of Transportation

The Urban Mass Transportation Administration (UMTA)

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Despite the considerable assistance from these sources, only the authors are in any way responsible for errors, approaches, and biases in the final product.

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The complex and time-consuming tasks of typing, proofing, and preparing the manuscript for publication were coordinated by Judy Sobel with complete competence and exemplary patience.

WHAT'S IN THE MANUAL

Pedal On! contains 47 learning activities grouped into ten mini-units. Each unit has two components:

1. *A lesson plan* provides a suggested day-by-day sequence of learning activities and objectives.
2. *Individual learning activities* describe in detail how to implement the exercises suggested in the lesson plan.

Eight spirit masters are also provided at the end of the Manual for use with several of the activities.

The first mini-unit provides a survey of issues related to bicycles, while the rest focus on specific bicycling issues. The nine activities in the survey mini-unit all reappear in subsequent units. Brief descriptions of all the activities in the Manual are provided on pages 13 and 14.

A final section of activities is called Assessment Activities. This section provides evaluation activities that can be used to evaluate or supplement the evaluation of an activity or an entire mini-unit.

Also included at the end of the volume is a Bibliography of suggested teacher and student materials.

HOW TO USE THE MANUAL

This Manual is designed as a resource volume of activities and background materials to be used in ways which are compatible with your needs and those of your students.

The mini-units and individual learning activities may be integrated into your curriculum at many points and to meet many purposes.

- In *consumer education and home economics*, the activities find a natural home in view of their treatment of bicycle issues from the perspective of the consumer.
- In *social studies*, the activities enhance learning about one's community. They aid in understanding the importance of citizen participation in government, and they broaden the study of transportation itself.

- *Health and safety units and physical education classes* are obvious points of entree because of the Manual's emphasis on bicycle safety.
- *Language arts* skills are integral to all the mini-units, since the activities are designed to develop and reinforce students' capacities to listen, speak, write, observe, and analyze.

You will find that the introduction to each mini-unit sums up the rationale for teaching that topic in your classroom. After reading these mini-unit instructions, you will have the background for deciding which mini-unit or mini-units you will teach. In examining the mini-units, you should feel free to make substitutions or deletions in the mini-units and in the learning activities whenever this is necessary to meet your teaching objectives.

Here are several methods for adapting the mini-units and learning activities to teach transportation and the environment in your classroom:

You can read the lesson plans for all mini-units and *select one or more lesson plans* to integrate into your course. Having made your selection, read the detailed activity descriptions that follow the lesson plans for specific instructions on implementing the activities in the mini-unit or units you have chosen. This method of using the Manual is most appropriate if you wish to concentrate in some depth on one or more specific aspects of bicycles.

If you prefer to provide your students with a survey of issues related to bicycles touching on several aspects of the field, you can *implement the first mini-unit,* which provides just this type of overview. For your own information, you may wish to skim the lesson plans of the other mini-units for additional materials that will enrich your survey presentation.

You can also *develop your own mini-unit* consisting of activities that you select from several mini-units in the Manual.* If you wish to do this, read the capsule descriptions of each activity provided on the chart on the following pages. This chart will show you, at a glance, the teaching method and content of each learning activity offered in the Manual.

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*You can also have your students leaf through the activities and select ones they would like to pursue individually or in small study groups.

MINI-UNITS AND ACTIVITIES

Activity #	Activity Description	Class Time (periods)
	Mini-unit 1 **Surveying bicycle issues**	
1	Students take a poll on their experiences with bicycles.	½-1
2	Students discuss why adults, teenagers, and children buy and ride bicycles and the advantages and disadvantages of bicycling.	1-1½
3	The class discusses bicycle safety.	½-1
4	Students play a board game that teaches the differences between safe and unsafe bicycle practices.	½-1
5	Students role-play and discuss scenarios in which a person is being pressured to ride unsafely.	1
6	Students discuss what bicycle characteristics purchasers should consider when deciding what bike to buy.	½-1
7	Students play a card game that requires them to identify the parts of a bicycle.	½-1
8	Class discusses maintaining a bicycle.	½-1
9	Students practice writing letters of complaint concerning grievances they have about bicycle purchase or repair.	1
	Mini-unit 2 **Studying the recreational and commuting uses of bicycles**	
10	Students discuss why adults, teenagers and children buy and ride bicycles.	1-1½
11	A class discussion is held on recreational bicycle activities cyclists can organize and engage in.	½-1
12	Students demonstrate, in a series of experiments, the potential use of bicycles for commuting.	2-3½
13	A class discussion is held on the advantages and disadvantages of bicycling	½-1
	Mini-unit 3 **Identifying safe bicycling practices**	
14	Students write descriptions of the dumbest and the greatest things they have ever done on a bicycle.	1-2
15	Students take a poll on their experience with bicycles.	½-1
16	The class discusses bicycle safety.	½-1
17	Students play a card game that requires them to distinguish between safe and unsafe bicycle riding.	1
18	Students engage in scientific experiments that illustrate bicycle safety concepts	½-1
19	Students use flashcards to learn the meaning of traffic signs.	½-1
20	Students play a board game that teaches the differences between safe and unsafe bicycle practices.	½-1
	Mini-unit 4 **Investigating why many people ride dangerously**	
21	Students discuss why those people who ride unsafely continue to do so even when they know it is very dangerous.	1
22	Students role-play and discuss scenarios in which a person is being pressured to ride unsafely.	1
23	Students explore ways to cope with pressures to ride recklessly by responding to hypothetical letters from students and adults in situations of conflict about bicycling.	1
24	Students discuss why people exert pressure on others to ride safely or unsafely.	½-1½

MINI-UNITS AND ACTIVITIES (CONTD.)

Activity #	Activity Description	Class Time (periods)
	Mini-unit 5 **Considering how to encourage other people to ride safely**	
25	Students discuss what restrictions they would set for their children on riding bicycles.	1
26	Students evaluate how to cope with an unsafe bike rider in the family.	1½-2
27	Students role-play a situation in which a friend is about to ride his bicycle dangerously.	1
	Mini-unit 6 **Studying how to buy a bicycle**	
28	Students discuss what bicycle characteristics purchasers should consider when deciding which bike to buy.	½-1
29	Students discuss embarrassment at carefully examining a bicycle for defects and characteristics before purchasing it.	½-1
30	Students role-play scenarios involving bicycle purchasers and salespeople.	1
	Mini-unit 7 **Learning to maintain a bicycle**	
31	Students play a card game that requires them to identify the parts of a bicycle.	½-1
32	Class discusses maintaining a bicycle.	½-1
33	Students interview bike riders on common bicycle malfunctions they have experienced and what kind of maintenance they perform on their bikes to prevent breakdowns.	2-4
34	Students perform basic maintenance tasks on a bicycle in class.	1
	Mini-unit 8 **Investigating the prevention of bicycle theft**	
35	Students discuss methods for preventing bicycle theft.	½-1
36	Students interview police officers about bicycle thefts.	2-3
	Mini-unit 9 **Identifying when and how to seek redress of grievances**	
37	A class discussion is held on reasons for seeking redress of grievances, and how this should be done.	1½-2½
38	Students role-play scenarios in which a consumer complains to a salesperson or mechanic.	1
39	Students practice writing letters of complaint concerning grievances they have about bicycle purchases or repairs.	1
40	Students poll bicyclists on complaints about their bicycles and what, if anything, they did about their grievances.	2-4½
	Mini-unit 10 **Identifying and promoting bicycle facilities**	
41	A class discussion is held on existing and needed bicycle facilities (such as bikeways and parking areas) and how to plan and advocate them.	1½-2
42	Students keep a written list of their observations about local bicyclists for one or more days.	½-1
43	Students obtain a map of their community and plot and publicize bicycle trails for recreation and commuter transportation.	3-5
	Assessment Activities	
44	You and the students evaluate class concerns about attitudes toward bicycles.	1
45	Students evaluate the course.	½-1
46	You and the students evaluate student attitudes toward various subjects covered in the course, including bicycle purchase, bicycle maintenance, redress of grievances, and bicycle safety.	1-4
47	Students respond to written or oral questions on topics covered in the course.	½-5

WHY TEACH ABOUT BICYCLES

The Problems

The use of bicycles by people of all ages has increased tremendously in the United States. In 1965 bicycle sales were 5.6 million, in 1970 they were 6.9 million, and in 1976 they reached 8.1 million. In 1973, a peak year for bicycle sales, 15.2 million bicycles were sold. In that year more bicycles were purchased than automobiles. There are now 100 million bicycles in use, and it is expected that half the nation's population will be bicycle riders by 1980.

The increased number of bicycles has magnified the need to educate people about bicycle safety. In 1974 the Consumer Product Safety Commission singled out bicycles as the most hazardous product on the American market. It estimated that bicycles and the equipment associated with them are responsible for 460,000 injuries requiring emergency room treatment each year, the majority of which involve youngsters. Nearly three bicyclists are killed in accidents every day--or over 1000 a year. There are also 1 million bicycle injuries annually, including 60,000 concussions and 120,000 fractures. Two-thirds of bicycle deaths and a high proportion of injuries involve children aged 5 to 14.

Bicycle safety education is important not only for its own sake but also as a means of inculcating basic transportation safety principles at an early age and in a relevant way. By the time youngsters secure their driver's license, many of their attitudes toward safety have become ingrained and future education and experiences can do little to alter them. However, most of the safety principles learned in connection with the bicycle can be transferred to use of other transportation modes, including walking, motorcycling, and automobile driving.

The increase in bicycle sales recorded over the last few years has been accompanied by rising public interest in better biking facilities. Many states and local communities are using public funds to finance bikeways and bicycle parking facilities, and better bicycle facilities are, in turn, creating interest in the bicycle as a viable, nonpolluting, nonenergy-consuming form of urban transportation.

As bicycles have increased in demand and sophistication, bicycle thefts have become a major consumer problem.

Since there are now numerous types of bicycles available at a wide range of prices, financial considerations are increasingly important in the public mind. As equipment becomes more complex and expensive, maintenance and quality of repair work also become important issues for the consumer of any age.

The Solutions

Federal and state governments must promote balanced transportation by providing assistance for the planning, developing, and financing of improved bicycle facilities. They must enact legislation of assistance to bicyclists, enforce bicycle manufacturing standards, and develop bicycle-riding safety standards and regulations.

Local governments must provide adequate and safe bicycle facilities, conduct bicycling safety education programs, and take steps to curtail bicycle theft.

Citizens/consumers must become informed about bicycle safety laws and regulations and practice safe bicycling habits. They should become informed about problems associated with bicycle purchase, maintenance, and use and participate in their solution.

Teachers must guide students to a better understanding of the importance of bicycle safety and the availability of adequate bicycling facilities. Classroom education and transportation consumer education can offer the student a unique opportunity to develop awareness and skills essential to acquire responsible bicycling habits and play a role in promoting responsible family and community attitudes toward bicycling.

This Manual focuses on developing consumer skills that are particularly appropriate to grades 6-9. The learning activities are designed to

- Promote awareness of the variety of uses to which bicycles can be put--recreational, shopping, commuting, etc.

- Develop awareness of and a positive attitude toward safe bicycling practices
- Stimulate a community-oriented concern to change the habits of people who ride their bicycles dangerously
- Develop wise purchasing skills, including the ability to effectively seek redress of grievances for unacceptable merchandise or repair work
- Motivate students to maintain their bicycles in safe operating condition and provide them with the necessary information to do so
- Enable students to minimize the risk of bicycle theft

MINI-UNIT 1

SURVEYING BICYCLE ISSUES

Note: The activities in this mini-unit are all selected from units which follow.

This first mini-unit is designed for instructors who may not have the time to use all the in-depth units which follow and instead want to expose their students to a variety of issues related to bicycles and bicycling. This unit can also be used in conjunction with one or more of the following units.

The unit treats basic issues associated with bicycles, including

- Why people bicycle
- How to bicycle safely
- How to respond to peer pressures to ride dangerously
- How to buy a bicycle
- How to maintain a bicycle
- How to seek redress of grievances for unsatisfactory bicycle purchases and repairs

A consistent theme running throughout the activities in this unit is that of safety. Concern for safety should play a large role not only in bicycling but also in determining what kind of bike to purchase and why and how to maintain one in proper operating condition.

You can, of course, browse through the activities in the other mini-units and substitute one or more of them for those we have provided in this survey unit. You may find activities that are more appropriate to the needs of your particular students than the ones included in this survey.

MINI-UNIT 1 LESSON PLAN

Surveying bicycle issues

Activity #	*Activities*	*Class Time*
1[a] Spirit Master #1	DESCRIPTION: Students take a poll on their experiences with bicycles. GOAL: To know about different kinds of unsafe bicycling practices, the kinds of traffic rules cyclists are most likely to break, and the kinds of persons who are most prone to engage in unsafe bicycling practices.	½-1 period
2[b]	DESCRIPTION: Students discuss why adults, teenagers, and children buy and ride bicycles and the advantages and disadvantages of bicycling. GOAL: To be familiar with the variety of reasons people bicycle and realize that how one plans to use a bike should influence the kind of bike one buys.	1-1½ periods
3[a]	DESCRIPTION: The class discusses bicycle safety. GOAL: To know the potential hazards of bike riding, the rules which should be followed to avoid these hazards, and the reasons these rules have been made.	½-1 period
4[a] Spirit Masters #2 and #3	DESCRIPTION: Students play a board game that teaches the differences between safe and unsafe bicycle practices. GOAL: To know various bicycle safety rules and be aware of the reasons they were made.	½-1 period

[a] This activity also appears in Mini-unit 3.

[b] This activity appears as two activities in Mini-unit 2.

MINI-UNIT 1 LESSON PLAN (CONTD.)

Surveying bicycle issues

Activity #	*Activities*	*Class Time*
5[c]	DESCRIPTION: Students role-play and discuss scenarios in which a person is being pressured to ride unsafely. GOAL: To be able to handle interpersonal situations involving bicycle safety, especially those in which students are encouraged by others to break bicycle safety rules.	1 period
6[d] Spirit Master #4	DESCRIPTION: Students discuss what bicycle characteristics purchasers should consider when deciding what bike to buy. GOAL: To know what factors should be taken into consideration when buying a bike, including the type of use to which the bike will be put, the most desirable style, and the price.	½-1 period
7[e] Spirit Masters #5 and #6	DESCRIPTION: Students play a card game that requires them to identify the parts of a bicycle. GOAL: To know the various parts of a bicycle and where those parts belong on the bicycle.	½-1 period
8[e]	DESCRIPTION: Class discusses maintaining a bicycle. GOAL: To be aware of the tasks which are important for bicycle maintenance, and the procedures for performing these tasks.	½-1 period

[c] This activity also appears in Mini-unit 4.

[d] This activity also appears in Mini-unit 6.

[e] This activity also appears in Mini-unit 7.

MINI-UNIT 1 LESSON PLAN (CONTD.)

Surveying bicycle issues

Activity #	*Activities*	*Class Time*
9[f]	DESCRIPTION: Students practice writing letters of complaint concerning grievances they have about bicycle purchase or repair. GOAL: To be aware of the reasons for and efficacy of writing letters of grievance.	1 period

[f]This activity also appears in Mini-unit 9.

Total Class Time: 6-9½ periods.

ACTIVITY #1*

Mini-unit Topic: Surveying Bicycle Issues

Approximate Class Time: ½-1 period

Capsule Activity Description: Students take a poll on their experiences with bicycles.*

Goal:

To know about different kinds of unsafe bicycling practices, the kinds of traffic rules cyclists are most likely to break, and the kinds of persons who are most prone to engage in unsafe bicycling practices.

Concepts Treated:

- There are many different reasons why people ride bicycles safely or unsafely.
- Parental attitudes, peer pressure, and previous experiences (such as accidents) influence bicycling habits.
- Unsafe bicycle riding practices can be easily identified.
- Bicycling practices may vary according to the age and sex of the bicyclist and the purpose of the bicycling trip.

ACTIVITY

Before taking the experience poll, students anonymously write on a blank questionnaire their predictions concerning the results of a class poll.

Students take the poll anonymously. A questionnaire students can use is provided on Spirit Master #1. Students may help you tabulate the results immediately afterwards on the blackboard. The class compares predictions with reality and discusses any discrepancies between the two.

Raise issues of how, why, and when people bicycle, using poll results as a takeoff point. For example, do students who bicycle to school or work behave more or less safely than those who bicycle for fun?

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*This activity also appears in Mini-unit 3.

Do boys or men bicycle less safely than girls or women? You can also raise the issue of why students and other people ride more or less safely. Does bicycling behavior vary according to age, sex, parental attitudes and behavior, peer pressures, previous bicycling experiences, or other factors? See if your students can identify the safe and unsafe bike riding behavior underlying Questions 5 through 14. Results of the poll can be compared with National Safety Council findings on the most common cyclist traffic violations, which are listed below:

1. Riding in the middle of the street
2. Failure to yield right-of-way
3. Riding too fast
4. Disregarding traffic signs or signals
5. Riding against the traffic

Evaluation Method:

Students write a class profile of their bicycling experiences.

Variation and Supplementary Activity:

Students can develop their own questionnaires, either as a class, in small groups, or individually. Other students can respond to the polls.

ACTIVITY #2*

Mini-unit Topic: Surveying Bicycle Issues

Approximate Class Time: 1-1½ periods

Capsule Activity Description: Students discuss why adults, teenagers, and children buy and ride bicycles and the advantages and disadvantages of bicycling.*

Goal:

To be familiar with the variety of reasons people bicycle and realize that how one plans to use a bike should influence the kind of bike one buys.

Concepts Treated:

- People ride bicycles for many different reasons, including pleasure, exercise, transportation to and from work, and transportation to and from school.
- The type of bicycle that a person buys should depend on a number of different criteria, including the person's age, his or her size, and the purposes for which he or she is planning to use the bicycle.

ACTIVITY

Students write a brief (½ page) description of the bicycling habits of one bike-riding adult, teenager, and child they have seen in real life or in the media. On a separate page, students explain why they think these individuals bicycle.

During the following class period, students break into small groups and are given written instructions to

1. Read each other's papers.
2. Discuss and record the reasons *why* people bicycle, carefully distinguishing between adult, teenager, and child bicyclists.

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*This activity appears as two activities in Mini-unit 2.

3. Put these reasons in order from the least to the most common reasons.

4. Try to decide whether people have different reasons for bicycling depending on personality, age, sex, economic position, residence, etc.

5. Decide and record what kinds of bicycles are best suited for people who ride for different reasons.

The groups report their conclusions to the class and respond to comments and questions from you and the class.

Advantages to owning and riding a bike that can be discussed include

- Bicycling is an inexpensive way to travel compared to travel by car.
- Bicycling is faster than walking and more efficient in its use of body energy.
- Bicycling can be faster than traveling by car when there is a lot of traffic.
- There are often fewer parking problems for bicycles than for cars; in addition, it may be possible to park a bike closer to one's destination than a car can be parked.
- Bicycling conserves fuel resources.
- Bicycles do not pollute the air.
- Bicycling promotes health by providing exercise and an opportunity to get outside.
- Bicycling is fun for both adults and children.
- Bicycling can be relaxing, both in its own right and compared to driving a car in traffic.
- Bicycling can afford opportunities for meeting interesting people.

Disadvantages to owning and riding a bike that can be discussed include

- Bicycling can be unsafe, particularly in traffic. (However, driving an automobile and walking may be as dangerous or more so per mile traveled.)
- Bicycles are expensive.
- Bicycles are easily and frequently stolen.

- Bad weather--rain, cold, snow, and wind--make bicycle riding unpleasant or impossible.
- Bicycles cannot be used conveniently over long distances that must be traveled quickly.
- Smog and pollution, particularly from car exhausts, can make bicycling unpleasant and unhealthy.
- Owning a bicycle requires doing some maintenance.
- It is difficult or impossible to transport many things on a bicycle.
- It is difficult and risky (in terms of damage or sweating) to wear good clothing while bicycling.
- Riders must have a minimum of good health and physical dexterity to ride a bicycle.

Evaluation Methods:

Each student writes a scenario involving an individual's need to get somewhere within the community. Students exchange scenarios and each student evaluates whether using a bicycle would be a good way to meet the transportation need described in the other student's scenario.

Students role-play a reporter interviewing a man-in-the-street on why he rides or does not ride a bicycle.

Students role-play a consumer advisor helping someone decide on the type of bicycle to buy, based on how it will be used.

Variation and Supplementary Activity:

Create a decision chart by listing the reasons why people bicycle (identified in Steps 2 and 3 in the activity) down the left side of the page. List the possible types of bicycles across the top of the page. Students should make a check in the appropriate box on this chart whenever they agree that a particular type of bicycle is well suited to a reason or purpose for bicycling.

ACTIVITY #3*

Mini-unit Topic: Surveying
Bicycle Issues

Approximate Class Time: ½-1 period

Capsule Activity Description: The class discusses bicycle safety.*

Goal:

To know the potential hazards of bike riding, the rules which should be followed to avoid these hazards, and the reasons these rules have been made.

Concepts Treated:

- Careless bike riding can be very dangerous, leading to a wide variety of potentially serious--or even fatal--accidents and injuries.
- Bicycle safety rules--if followed carefully--can prevent serious bike accidents; such rules include obeying normal traffic regulations, using or wearing special equipment, making an effort to concentrate on what the other fellow is doing on the road, and being sure to keep one's bicycle well maintained and in good condition.

ACTIVITY

Conduct a class discussion on bicycle safety. Such a discussion should consider the topics given below.

Basic information about numbers, types, and causes of bicycle-related accidents in the United States should be given:

Bicycle accidents cause the most injuries requiring emergency ward treatment each year (460,000).

There are 1 million bicycle-related injuries a year, including 60,000 concussions and 120,000 fractures.

Bicycle accidents cause 1000 deaths a year--3 a day.

Twenty percent of bike accidents occur in rural areas.

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*This activity also appears in Mini-unit 3.

Approximately 26 percent of bike fatalities occur at night.

Two-thirds of bicycle deaths involve children aged 5 to 14 years.

Bicyclists are not protected in spills or crashes, while auto drivers are.

Additional safety information is provided in the Consumer Product Safety Commission report at the end of this activity.

Major safety rules should be described:

Obey the laws.

Ride with the traffic; riding against traffic can result in running into cars coming out of driveways and roads, because auto drivers do not check for traffic coming down on the wrong side of the street; running into doors opened from parked cars for the same reason; running into cars on curves, since car drivers will hug the inner side of the road and cannot see a bike rider (nor can the bike rider see the car) until it is too late; compounding the speed of the car and the bike if they collide; and colliding with an automobile or other vehicle head-on.

Do not speed; speeding makes it harder to avoid pedestrians, potholes, glass, sand, drains, and other vehicles.

Signal all turns, so that cars don't run into you as you turn.

Don't hitch rides with other vehicles.

Don't ride sidesaddle or on the handlebars.

Don't weave in and out of traffic.

Special situations and equipment that can be mentioned include these:

Use lights, reflectors, and light-colored clothing when riding at night; the French two-way armband light is especially good.

Slow down in rainy weather to avoid skids (wet leaves are especially dangerous); brakes, especially caliper ones (hand brakes) function poorly in wet weather.

Wear protective helmets, particularly when riding on streets and highways.

Wear clips over long pants to keep cuffs from catching in gears; make sure shoelaces are short for the same reason.

Avoid traffic whenever possible.

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Don't ride two or more abreast on the road; keep single file.

Avoid bicycles with high handlebars and small wheels--they are involved in a large percent of accidents because they are less stable.

Avoid trying tricks such as "wheelies" (riding on rear wheel only) and "jumpies" (slamming on the brakes so the bike will fly through the air).

Do not ride a bicycle that is too small or too large.

Concentrate while riding:

Watch for cars coming out of driveways and side streets.

During sunsets and rainy days, be especially careful of cars because they may not be able to see you.

Watch out for sudden moves by pedestrians.

Listen for cars coming up behind you.

Look out for opening doors on parked cars.

Watch out for potholes, drains, sand, and glass.

Be especially careful and observant at intersections.

Maintenance of bicycles is discussed in Activity 8, a class discussion on bicycle maintenance. Maintenance tasks include tire care, lubrication, tightening bolts and screws, adjusting brakes, and keeping bicycle dry and clean.

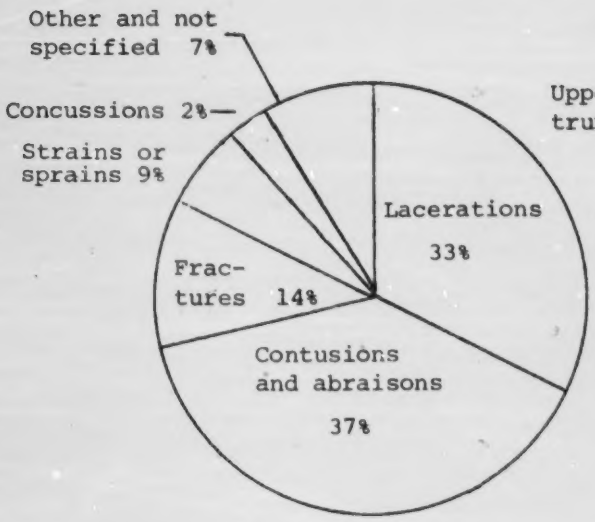
Bicycle registration: In an emergency, a bike registration may help police to contact parents or other relatives. This also may help to recover lost or stolen bikes.

Class discussion can follow on such issues as why many riders commonly ignore these safety rules and what can be done to encourage riders to practice these rules.

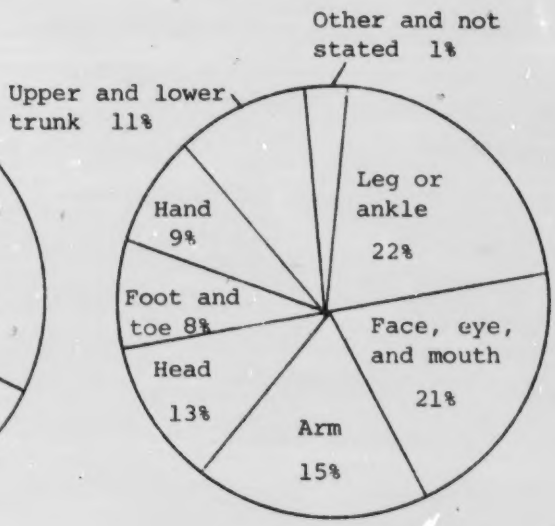
Evaluation Method:

Each student writes a first-person autobiographical account of a bike trip that involves as many safe riding practices as possible. Students exchange papers and one student identifies all the safety items included in the other student's paper.

Summary of NEISS Matrix Data on Bicycle Injuries*



Type of injury



Body part injured

For 7/1/75 through 6/30/76 injury cases reported by the National Electronic Injury Surveillance System. Total bicycle injuries were 21,117 for this period.

During the 12-month period, July 1, 1975 through June 30, 1976, data on 21,117 injuries associated with bicycles were collected by the National Electronic Surveillance System (NEISS). The majority (70 percent) of the victims suffered either lacerations or contusions and abrasions. Fractures were third, accounting for 14 percent of the injuries. There is broad distribution among body parts injured. Most (74 percent) of the injuries were to children under 15. However, injuries to bike riders over 15 occurred with frequency and severity sufficient to merit consideration. Twice as many males as females suffered injuries.

Reasons for accidents are similar for both sexes in all age groups. Losing control is one of the most common factors cited in bicycle accident investigations. However, in many cases, loss of control followed some other factor (such as riding double, stunting, and foot slippage) or resulted from poor design or component failure. The chart below breaks down bicycle injuries by age and sex as identified by NEISS.

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*From the Consumer Product Safety Commission.

Age and sex distribution

Age	*Percent*	*Age*	*Percent*
0-2	1	20-24	5
2-4	9	25-34	4
5-9	31	35-44	2
10-14	33	45-54	1
15-19	13	55-64	1
		65+	Less than 1

Sex	*Percent*
Males	67
Females	33

ACTIVITY #4*

Mini-unit Topic: Surveying
Bicycle Issues

Approximate Class Time: ½-1 period

Capsule Activity Description: Students play a board game that teaches the differences between safe and unsafe bicycle practices.*

Goal:

To know various bicycle safety rules and be aware of the reasons they were made.

Concept Treated:

- There are numerous bicycle safety rules, some of them "common sense" and some of them actual regulations; all of them are meant to prevent bike-related accidents.

ACTIVITY

Students exercise their understanding of the differences between safe and unsafe bicycle habits by playing a simple board game. Materials required include a small game board, a set of cards (both provided on Spirit Masters #2 and #3) and a die.

Class breaks into small groups of three or four students. Each group is given a set of game materials. The first time the game is played, the students cut out their own safe/unsafe cards and paste the gameboard onto cardboard for durability. Each group will need a die to determine the number of boxes to move on the board. Instructions appear on the following gameboard.

Evaluation Method:

Game is self-evaluating.

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*This activity also appears in Mini-unit 3.

ACTIVITY #5*

Mini-unit Topic: Surveying Bicycle Issues

Approximate Class Time: 1 period

Capsule Activity Description: Students role-play and discuss scenarios in which a person is being pressured to ride unsafely.*

Goal:

To be able to handle interpersonal situations involving bicycle safety, especially those in which students are encouraged by others to break bicycle safety rules.

Concepts Treated:

- Pressure to break bicycle safety rules is a fairly common thing and occurs often within peer groups.
- There are polite and "with-it" ways of refusing peer group pressure to break bicycle safety rules, which might save both embarrassment and trouble later on.

ACTIVITY

Students role-play parts in scenarios in which someone is being pressured to ride unsafely. Sample role profiles appear on the next pages. Students should be encouraged to develop their own role profiles.

After each role-play, participants read their role profiles to the class and discuss feelings they had while role-playing. Nonparticipants discuss how they might have acted or what they might have said had they been involved. Emphasize the issue of why people exert peer pressure, as well as ways of resisting such pressure.

Evaluation Methods:

Students write a *Handbook for Safe Bicycle Riders* which discusses how to resist peer pressure to ride unsafely.

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*This activity also appears in Mini-unit 4.

Students write responses to a "Dear Abby" letter inquiring about what to do when the rider is being pressured to ride dangerously.

SAMPLE ROLE PROFILES

Asked for a Ride

Passenger

You are downtown and run into a friend on his bicycle. What luck! You were going to have to walk home or take a bus, but it's a long walk, three miles, and you don't want to spend that 25¢ on a bus ride. Your friend lives only three blocks from your home, so you naturally ask your friend to give you a ride on his bike.

Rider

You just got a new bike a week ago and nearly wrecked it yesterday riding a friend on the handlebars. You feel you ought to be able to control the bike with someone on the handlebars, but in the city traffic it's sometimes very difficult, and you don't want to ruin your bike in another spill. You've just run into a friend and wouldn't you know it, he'll probably ask you for a ride home since he lives only three blocks from you. What will you do if he asks?

Offered a Ride

Rider

Your baseball game is over and you just pitched a one-hitter. You're feeling terrific, as if you could make the majors by the time you're 16. As you get onto your bike to pedal home (about two miles away), you notice that Sam, a friend of yours, is starting to walk to his home. He lives a mile from you. You offer him a ride on your bike thinking, "I'll be able to do him a favor and at the same time it will give me an excuse to see his cute sister when I get him home."

Passenger

Your baseball game is over and you're bushed. Your team won behind the one-hit pitching of Robert, whom you, as a mere second baseman, admire a lot. The thought of walking all the way home (it's three miles) makes you even more tired. But Robert has offered to ride you on the handlebars of his bike. What a thrill! But Robert rides very fast and goes through stop signs and red lights without looking for cars. Your parents have warned you not to ride on handlebars and if you come home injured or scraped up you'll be grounded for a week. But you'll feel like a fool to turn down a ride from the team pitcher. What are you going to do?

At Night

Person being pressured

Your friends are talking about taking a ride this evening down to the park (or movies, or countryside, etc.) but you (Tom) don't like to bicycle at night because of the traffic and because you don't have a light for your bicycle. Most of your friends don't have lights on their bikes either, but that doesn't seem to bother them. You had a couple of close calls with cars last week during the daytime, and you're not about to ride your bike through the traffic at night without lights. The problem is these are your close friends and they're really going to come down on you if you refuse to join them. What will you say?

Preson pressuring the friend

You (John) and your friends feel it would be a lot of fun to bicycle down to the park (or movies, or countryside, etc.) this evening. You're at Tom's house right now. You know all the other kids will go along with the idea, but Tom might not. He seems to be careful about the things he does--like riding a bike at night. He doesn't know how to live and enjoy life. So if he says he won't go with you, you're going to *make* him go--it's time he stopped being so chicken and started acting like an adult. So you suggest, "Say, let's bike down to the park this evening and have ourselves some fun!"

Another person pressuring the friend

You (Bill) are bored again, wondering what you'll do this evening. You're just waiting for someone in the group to come up with an exciting idea. You know Tom won't come up with one--he never suggests doing anything interesting. He always comes along, though, but sometimes he complains that you and the others are crazy--that you do foolish things. If you do think of something to do, you hope Tom doesn't throw a wet blanket on the idea and spoil it for the rest of you.

Busy Street

Person being pressured

Your parents have told you (Barbara) that you are not to bicycle along Main Street under any condition. If they catch you doing it, they'll take your bike away for a week. They say there's too much traffic on Main Street and it's no place for you to be. The trouble is, the only way to get to the park is down Main Street. Otherwise, you have to go three miles out of the way on a bunch of side streets, and by the time you do that, you'll have to turn right around and come home for dinner. Susan is with you right now riding home from school and you just know she's going to ask you to ride with her down to the park, along Main Street.

Person pressuring the friend

You are walking home with Barbara, your best friend, after school. You've just come up with a great idea. If you bicycle quickly down to the park you'll be able to watch the end of the Little League game. But you'll have to hurry. The quickest way to get there is down Main Street. There's always a lot of traffic on Main Street, but if you ride carefully you won't have any trouble. So you say to Barbara, "Let's bike down to the park and see the rest of the Little League game. If we hurry we can make it."

New profiles can be created by varying the relationships among the actors, the unsafe practices of the rider, why the passenger needs the ride or is afraid of accepting the ride, and why the rider is afraid of offering the ride.

ACTIVITY #6*

Mini-unit Topic: Surveying Bicycle Issues

Approximate Class Time: ½-1 period

Capsule Activity Description: Students discuss what bicycle characteristics purchasers should consider when deciding what bike to buy.*

Goal:

To know what factors should be taken into consideration when buying a bike, including the type of use to which the bike will be put, the most desirable style, and the price.

Concepts Treated:

- There are many questions that a person should ask him- or herself before buying a bike, including what he or she will use it for, how much he or she has to pay, what kind of accessories are needed, and what style of bike is the most comfortable and reliable.
- The buyer should be sure that the store from which he buys is reputable and will give him good service in the future.
- The final step in bike buying involves a careful check of the bike that is actually selected, including a test ride.

ACTIVITY

Students write responses to the following letter:

Dear Consumer Advisor:

I am 14 years old and want to buy a bicycle. I have outgrown my old one, but I don't know what kind of new one to get. I plan to use it to bike to school, three miles away, up a steep hill. I also want to use it to play with my friends. My parents will give me $65 for it and I have $50 saved in the bank. What kind of bike should I get? How many gears? High-rise, racing, conventional? Racing handlebars or regular handlebars? What brand? How much should I pay?

Sincerely,
Helpless

*This activity also appears in Mini-unit 6.

During the following class period, students break into small groups and are given written instructions to

- Discuss whether they disagreed on the type of bike Helpless should buy and, if so, why
- Agree on what kind of bike she should buy and why
- Decide, in general, how someone should go about assessing what kind of bike he or she should buy--what factors need to be taken into account, such as whether the purchaser plans to bike up steep hills, wants a rugged bike for dirt roads, will be exposing an expensive bike to theft risks, wants minimum upkeep costs, etc.

Groups report their conclusions to the class and respond to comments and questions from the class. Compile a list on the blackboard of purchase criteria the groups have come up with and try to gain a class consensus on what they should be--such as plans to bike up a hill, plans to ride long distances, etc. You can also use the purchase consideration chart provided on Spirit Master #4.

The following lists include steps in determining what kind of bike to buy, deciding where to buy the bike, and actually buying the bike. You might bring some of these up if the class fails to mention them. The steps in determining what kind of bike to buy include

1. Decide what bike will be used for--short trips, long trips, commuting, recreation, up hills, over rough terrain, racing, touring, etc. Ten-speed bicycles are probably most versatile. Three-speed bikes are good for around town but are inappropriate for any trip of longer than 30 miles.
2. Decide how long the bike will be owned. This is a consideration in particular with bicycles for small children. Decide where the bike will be kept, e.g., if you live in a high-crime area. In both cases, you might want to purchase a second-hand bike.
3. Select the brand of bicycle. It is useful to compare the repair records of various bike brands and models.
4. Choose a style--racing, banana seat, conservative, etc.
5. Determine a number of speeds or gears--1, 3, 5, or 10--and how gear ratios influence hill-climbing capabilities.
6. Select handlebars--racing, conventional, or high-rise.
7. Select price range--$50 to $100, $100 to $200, over $200.
8. Select proper size.
9. Determine the availability of replacement parts and services.

Three steps are involved in deciding *where* to buy a bike:

1. Compare bike prices in different stores, including any assembly charges.

2. Determine stores' reputations for selling quality products and making competent repairs.

3. Consider whether the bike should be bought from a store that can and will repair it competently and promptly.

Some of the steps involved in actually buying a bike include

1. Examine the tires--are they sew-ups or clinchers? Are they in good condition? (Clinchers are the most common and durable and the easiest to repair.)

2. Select the right-size bicycle.

3. Test ride the bicycle.

4. Check the frame the defects and type of construction--welded or brazed. (On better bikes, it is usually brazed. Welding, which is done at high temperatures, robs metal of its strength.)

5. Examine the warranty.

Selecting accessories can be discussed in terms of why they are desired or needed for safety, convenience, or aesthetic reasons. Examples of accessories include lights (generator or lamp? on the bicycle, worn on the rider, or both?); locks; saddle bags, baskets, and book racks; tire pumps; tire pressure gauges, water bottles; gloves; kickstands; toe clips and pant-cuff clips; chain shields that prevent trousers from getting caught in chains; child seats; tire-repair kits; cloth handlebar tape; car racks for transporting bike(s); and bicycle safety flags for increased visibility.

Evaluation Method:

Students write their own letters to a consumer advisor, describing someone who plans to buy a bike. Students then exchange letters and each student responds to one other student's letter in terms of what kind of bike he or she should buy.

Variations and Supplementary Activities:

Students can interview parents and other bicycle purchasers on how they decided what kind of bicycle to buy.

Students can interview bicycle salespeople as to what kinds of bikes most customers buy and why.

Students can discuss and read about accessories they should or might want to buy.

The class can discuss how the sequence of tasks to follow in determining which bicycle to buy and buying one can be varied from the sequence offered in this activity.

Discussion can focus on what to examine in buying a used bicycle, such as condition of the frame, how well the gears work, presence of rust, tire condition, and the number of accessories included.

Students can fill in a copy of the purchase considerations chart (Spirit Master #4) for their ideal bike, and then discuss their selection criteria.

ACTIVITY #7*

Mini-unit Topic: Surveying
Bicycle Issues

Approximate Class Time: ½-1 period

Capsule Activity Description: Students play a card game that requires them to identify the parts of a bicycle.*

Goal:

To know the various parts of a bicycle and where those parts belong on the bicycle.

Concept Treated:

- Knowledge about the different parts of the bicycle and their purpose is essential to the person who needs or wants to make bicycle repairs.

ACTIVITY

Students play a game that requires them to identify the parts of a typical bicycle. Class breaks into small groups of no more than four students each. Each player is given a duplicated copy of the instructions and the bicycle diagram provided on Spirit Masters #5 and #6. Each group is also given a copy of the pages of cards that follow this activity. Each group cuts out the cards and pastes them onto cardboard or 3 x 5 cards for durability.

Evaluation Method:

Game is self-evaluating.

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*This activity also appears in Mini-unit 7.

Variation or Supplementary Activity:

If students are interested in making more detailed repairs or in carrying on more intricate maintenance, they can create cards for more esoteric parts (e.g., jockey roller, cotter bolt) and either revise the bicycle diagram to accommodate these parts or develop an entirely new diagram.

Answer Sheet

1. Rear derailleur
2. Brake cable
3. Seat post
4. Rim
5. Spoke
6. Chainwheel
7. Chain
8. Rear sprocket
9. Chain stays
10. Fork crown
11. Brake pad
12. Brake levers
13. Rear brake
14. Fork
15. Front brake
16. Down tube
17. Tire valve
18. Crank
19. Crank axle
20. Seat lug
21. Saddle
22. Pedal
23. Gear cables
24. Gearshift
25. Handlebars
26. Seat stays
27. Toe clip
28. Front hub
29. Top tube
30. Seat tube
31. Expander bolt
32. Front derailleur
33. Seat post clamp belt
34. Tire
35. Quick-release lever

Rear derailleur	Seat lug	Rear sprocket	Front brake	Saddle
Chain	Seat stays	Toe clip	Front derailleur	Seat post
Chain stays	Down tube	Pedal	Seat post clamp bolt	Rim

Brake pad	Tire valve	Gear cables	Front hub	Tire
Spoke	Brake levers	Crank	Gear shift	Top tube
Quick-release lever	Chainwheel	Rear brake	Crank axle	Handlebars

Seat tube	Fork	Brake cable	Fork crown	Expander bolt
Write in your own part	*Write in your own part*	*Write in your own part*	*Write in your own part*	*Write in your own part*
Write in your own part	*Write in your own part*	*Write in your own part*	*Write in your own part*	*Write in your own part*

ACTIVITY #8*

Mini-unit Topic: Surveying
Bicycle Issues

Approximate Class Time: ½-1 period

Capsule Activity Description: Class discusses maintaining a bicycle.*

Goal:
To be aware of the tasks which are important for bicycle maintenance, and the procedures for performing these tasks.

Concepts Treated:

- Regular bicycle maintenance is important for safe and enjoyable bike riding.
- Once the various tasks leading to safe bicycle maintenance have been learned, they are easy and not too time consuming to perform on a regular basis.

ACTIVITY

Hold a class discussion on basic maintenance tasks which bicycle owners can and should perform. Such tasks include

- *Tire care*, including maintaining proper tire pressure (indicated on most tire sidewalls); being careful about filling tires with air, particularly from gas station pumps, which can be inaccurate and cause tire explosions; not abusing tires by riding over curbs, riding double, and skidding to a stop; and not letting bicycles stand for any length of time or underinflated tires
- *Lubrication* (according to bicycle manual instructions) of brakes, derailleur, chain, pedal, and other parts
- *Tightening* bolts and screws periodically
- *Adjusting brakes*, as they wear or loosen, by turning appropriate screws
- *Keeping bicycles dry* and free from mud

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*This activity also appears in Mini-unit 7.

Follow-up discussion can center on reasons maintenance is important, such as

- Making sure bicycle riding is as safe as possible (e.g., by having working brakes)
- Making riding as easy as possible (e.g., through lubrication and proper tire pressure)
- Ensuring a longer-lasting bike (e.g., by wiping it when it is wet)
- Avoiding inconvenient equipment failures and breakdowns on the road (e.g., flat tires, lost bolts or screws)
- Maintaining resale or trade-in value

Finally, the class should discuss the reasons why bike owners are often reluctant to perform regular maintenance, such as

- Laziness
- Not knowing that maintenance makes for safer and easier riding
- Insecurity about how to do technical things like oiling joints and tightening screws and bolts

Evaluation Method:

Students write a brief *Manual for Bicycle Maintenance* that includes the basic maintenance tasks that the average owner can perform.

Variations and Supplementary Activities:

Hold a class discussion on how to winterize a bike, including lubrication, leaving the bike upside down or hanging, treating the saddle with saddle soap to preserve the leather, and cleaning and oiling all chrome parts and spokes.

A trained mechanic can be invited to class to discuss how to take care of a bicycle.

ACTIVITY #9*

Mini-unit Topic: Surveying Bicycle Issues

Approximate Class Time: 1 period

Capsule Activity Description: Students practice writing letters of complaint concerning grievances they have about bicycle purchase or repair.

Goal:

To be aware of the reasons for and efficacy of writing letters of grievance.

Concepts Treated:

- Phrasing grievance letters in certain terms and using certain letter-writing techniques increase one's chances of receiving a reply or having the grievance redressed; factual, objective letters are better than angry, threatening ones.
- Certain types of information should be included in complaint letters, including copies of purchase or warranty papers.

ACTIVITY

Students read one or more of the sample scenarios in Activity 39 and write letters seeking redress of the grievances illustrated in those scenarios. Each student (or small group of students) decides to whom he should write and what should be included in his letter. A list of potential recipients and a sample letter are provided at the end of the activity. Follow-up discussion can focus on

- How useful letter writing is
- Who the best targets for writing letters to are

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*This activity also appears in Mini-unit 9.

- Whether letters are more effective if they are angry, factual, apologetic, etc.

- What information should be included (the writer's name and address; the name of the bicycle shop and its address; the make, year, and number of the model; a description of the complaint; copies of repair, purchase, or warranty papers; the conduct of the salesperson dealt with; and an indication that copies are being sent to other people)

Evaluation Method:

Each student writes his or her own letter and then exchanges it with another student. Students criticize each other's letters in terms of their potential effectiveness.

Variation and Supplementary Activity:

Students can role-play telephoning their complaints to one or more sources of redress of grievances while other students role-play the party receiving the call.

Agencies, Individuals, and Groups to which to Write Letters When seeking Redress of Grievances

1. Bicycle manufacturers or distributors (check bike manual or call bike store)

2. The Consumer Product Safety Commission: to report safety defects or bicycling injuries, use toll-free phone number: 800-638-2666 (in Maryland only: 800-492-2937)

3. National Highway Traffic Safety Administration (for help with safety guidelines, not warrantees or redress)

   Administrator
   NASSIF Building
   400 7th and D Streets
   Washington, DC 20590

4. Federal Trade Commission (if the company engages in interstate commerce and the complaint alleges false advertising or restraint of trade)

   Chairman, FTC
   Washington, DC 20580

   or regional offices in Atlanta, Boston, Chicago, Cleveland, Kansas City, Los Angeles, New Orleans, New York, San Francisco, Seattle (consult a local phone book)

5. Voluntary consumer groups. For names of local organizations, write to

   Executive Director
   Consumer Federation of America
   Suite 1105
   1102 Fourteenth Street
   Washington, DC 20005

6. State and city consumer protection agencies (consult a local phone book)

7. Newspaper action lines (call local newspapers)

8. Better Business Bureau (consult a local phone book)

9. Federal congressmen (House of Representatives, Washington, DC 20510) and senators (U.S. Senate, Washington, DC 20510) to recommend Federal legislation

10. State and local governmental representatives, governor, mayor, etc. (call information for addresses)

11. Foreign embassies (for bikes manufactured abroad; consult a local phone book)

Sample Consumer Complaint Letter

Ms. Sarah Rizzo
President
Spoke Bicycle Company
Transit, PA 00000

March 14, 1977

Dear Ms. Rizzo:

On April 1, 1976, I bought a Loser XKE bicycle from Larry's Bicycle Shop on 50 Main Street, Boston, Massachusetts. With the bike came a year's guarantee on parts and labor. However, two weeks after I bought it, the shifting mechanism broke. I took the bike back to Larry's Bicycle Shop, but he told me I would have to pay for the repairs because it was my fault the mechanism broke. He claims I must have let the bike fall over on it. This isn't true. It broke while I was riding up a hill. I insist on having the warranty honored. I hope you will take prompt action to remedy this unethical behavior on the part of Larry's Bicycle Shop.

I enclose copies of my sales receipt and the manufacturer's guarantee. Thank you for your attention.

Sincerely,

Paul O'Reilly

cc: Mass. Consumer Protection Agency
Boston Better Business Bureau

MINI-UNIT 2

STUDYING THE RECREATIONAL AND COMMUTING USES OF BICYCLES

Bicycles are used by different people for a variety of purposes, including enjoyment, exercise, shopping, socializing, and commuting to and from work and school. Students need to be familiar with the possible ways in which to use bicycles so that they may take full advantage of the varied opportunities bicycling presents. In addition, how one plans to use a bicycle will influence the kind of bike one buys--a topic dealt with in more detail in Mini-unit 6, "Purchasing a Bicycle."

Students should also be aware of the general advantages and disadvantages of biking so they may decide whether they wish to purchase a bike, what kind of bike to buy, and when and how to use one.

Other key concepts addressed in this unit include the following:

- There are many forms of organized group cycling activities available that are both fun and interesting, including touring, racing, and different bicycle games played by teams or individuals.
- Many conditions, such as traffic and the weather, affect the desirability of different transportation modes--including that of bicycling--for commuting.

The possible purposes for which bicycles can be used and the advantages and disadvantages of using bicycles for those purposes depend in part on how extensive the bicyle facilities are in the cyclist's community. Mini-unit 10, which focuses on the topic of "Identifying and Promoting Bicycle Facilities," is a useful follow-up unit to this one.

MINI-UNIT 2 LESSON PLAN

Studying the recreational and commuting uses of bicycles

Activity #	*Activities*	*Class Time*
10[a]	DESCRIPTION: Students discuss why adults, teenagers, and children buy and ride bicycles. GOAL: To be familiar with the variety of reasons people bicycle and realize that how one plans to use a bike should influence the kind of bike one buys.	1-1½ periods
11	DESCRIPTION: A class discussion is held on recreational bicycle activities cyclists can organize and engage in. GOAL: To be aware of the types of organized bicycling activities that are available, the advantages and disadvantages of each, and sources which can provide further information on such activities.	½-1 period
12	DESCRIPTION: Students demonstrate, in a series of experiments, the potential use of bicycles for commuting. GOAL: To be aware of the potential advantages and disadvantages of commuting to school or work by bicycle as opposed to by other forms of transportation.	2-3½ periods, plus out-of-class time
13[a]	DESCRIPTION: A class discussion is held on the advantages and disadvantages of bicycling. GOAL: To be aware of why people do and do not own bicycles, including advantages over other modes of transportation (relaxation, speed of travel) and disadvantages (expense, inconvenience in bad weather).	½-1 period
		Total Class Time: 4-7 periods.

[a]This activity also appears in Mini-unit 1.

ACTIVITY #10*

Mini-unit Topic: Studying the Uses of Bicycles

Approximate Class Time: 1-1½ periods

Capsule Activity Description: Students discuss why adults, teenagers, and children buy and ride bicycles.*

Goal:

To be familiar with the variety of reasons people bicycle and realize that how one plans to use a bike should influence the kind of bike one buys.

Concepts Treated:

- People ride bicycles for many different reasons, including pleasure, exercise, transportation to and from work and school.
- The type of bicycle that a person buys should depend on a number of different criteria, including the person's age, his or her size, and the purposes for which he or she is planning to use the bicycle.

ACTIVITY

Students write a brief (½ page) description of the bicycling habits of one bike-riding adult, teenager, and child they have seen in real life or in the media. On a separate page, students explain why they think these individuals bicycle.

During the following class period, students break into small groups and are given written instructions to

1. Read each other's papers.
2. Discuss and record the reasons *why* people bicycle, carefully distinguishing between adult, teenager, and child bicyclists.

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*This activity also appears in Mini-unit 1.

3. Put these reasons in order from the least to the most common.

4. Try to decide whether people have different reasons for bicycling depending on personality, age, sex, economic position, residence, etc.

5. Decide and record what kinds of bicycles are best suited for people who ride for different reasons. You may use a chart similar to that under *Variation and Supplementary Activity*.

The groups report their conclusions to the class and respond to comments and questions from you and the class.

Evaluation Methods:

Students role-play a reporter interviewing a man-in-the-street on why he rides (or does not ride) a bicycle.

Students role-play a consumer advisor helping someone decide on the type of bicycle to buy based on how it will be used.

Variation and Supplementary Activity:

This activity can be conducted as a class discussion. Create a decision chart by listing the reasons why people bicycle (identified in Steps 2 and 3 in the activity) down the left side of a page. List the possible types of bicycles across the top of the page. Students should make a check in the appropriate box on this chart whenever they agree that a particular type of bicycle is well suited to a reason or purpose for bicycling.

ACTIVITY #11

Mini-unit Topic: Studying the Uses of Bicycles

Approximate Class Time: ½-1 period

Capsule Activity Description: A class discussion is held on recreational bicycle activities cyclists can organize and engage in.

Goal:

To be aware of the types of organized bicycling activities that are available, the advantages and disadvantages of each, and sources which can provide further information on such activities.

Concepts Treated:

- There are many forms of organized group cycling activities available that are both fun and interesting, including touring, racing, and different bicycle games played by teams or individuals.
- Various organizations throughout the United States can provide information on group bicycling activities.
- Obtaining information from such organizations is one step in the planning necessary to make activities such as touring successful and enjoyable.

ACTIVITY

Hold a class discussion on recreational bicycling activities. Students can form clubs or group around certain activities in which they wish to participate. Discuss four major types of recreational activities suitable for bicycles that have potential as organized group activities:

Touring. Touring is bicycling for pleasure in the countryside or suburbs for 15 or more miles, one to several days. Two types of touring are conventional touring, in which the cyclists travel light and use restaurants and motels for accommodations, and camping touring, in which cyclists pack sleeping gear and cooking utensils and rough it. Discussion for both types of touring can center on the relative advantages and disadvantages of each; equipment needed, such as spare tire, first-aid kit, tools, and lightweight camping equipment; transporting bicycles

to desired touring locations, using trains, ferries, buses, planes, and cars (there are two types of car racks, rear end racks and roof racks--the advantages and disadvantages of each can be discussed); concern for wind problems; loop trips in which the cyclists return to their point of departure without retracing their route; organizations that can assist tourists, such as

American Youth Hostels Inc.
20 West 17th Street
New York, NY 10011
(for travel information, passes to permit use of youth hostels, and information on organized tours)

League of American Wheelmen
5118 Foster Avenue
Chicago, IL 60630

American Automobile Association (AAA)
Local Office or
1712 G Street, NW
Washington, DC 20006
(for road maps)

Bike Centennial
P.O. Box 1034
Missoula, Montana 59801
(for information on cross-country trips)

and publications that can assist tour planning, such as

U.S. Geological Survey Topography Maps
Distribution Section
1200 South Eads Street
Arlington, VA 22202

North American Bicycle Atlas
c/o Books About Cycling
P.O. Box 208
Nevada, CA 95959

Racing. There are two major categories of bicycle racing: informal and organized. Organized racing is often conducted at colleges as a team activity. Informal racing can involve speed, endurance, cross-country and slalom races; coasting; snail races (going as slowly as possible); sprints; and pursuit races (trying to catch up with another bicyclist). Information on organized racing can be obtained from the

Amateur Bicycle League of America
4233 205th Street
Bayside, NY 11361

Games. There are many bicycle games that can be discussed, some of which are moderately dangerous if necessary precautions like padded clothing and helmets are not taken. Other games require using an old bicycle since they may involve damage to participating bicycles. Some examples of bicycle games are provided at the end of the activity. Other games include scavenger hunts, obstacle drops, and relays. These games can be discussed in terms of needed equipment, safety considerations, convenience, and forming clubs to engage in them. For rules of bicycle polo, write to

U.S. Bicycle Polo Association
Carlos F. Concheso
P.O. Box 565
FDR Station
New York, NY 10022

Equipment. There are all kinds of ornaments and decorations that can be painted on or otherwise added to bicycles, such as flags, mirrors, roll bars, radios, tassles, odometer, crepe paper, playing-card noise makers in spokes of the wheels, flowers (real and plastic), and wild paintings and colors. While organizations are hardly necessary to add these ornaments, clubs can make their creation more fun.

Follow up discussion on all these recreational activities can focus on

- How organizations can be formed to foster them
- What bicycle facilities are necessary to make them possible
- What safety hazards are involved in engaging in them; how these hazards can be eliminated or minimized
- Which activities students would like to experiment with and report back to the class about

Evaluation Method:

Students actually engage in one or more of these recreational activities by forming a club, joining one, or teaming up with friends. Activities might include gathering information and planning trips.

Variation and Supplementary Activity:

Students can read material on games that follows and discuss and choose which games and skill tests they would like to try. Students then engage in games and skill tests.

Bike Games and Races*

Slow or Snail Ride

The object of this funny game is to see which rider can travel slowest. The last rider to cross the finish line wins. Any type of bicycle can be used.

Lay out a course 50 to 100 feet long with several lanes 3 to 6 feet wide. Assign a lane to each rider. Run several heats if necessary. At a signal, each rider gets underway at the starting point, riding as slowly as possible. Disqualify any rider who does not stay in his lane, who touches a foot to the ground, or who turns around. Appoint a referree to be sure rules are obeyed. The last rider to cross the finish line is the winner. If several heats are run, have winners "race" in a run-off.

Grab Bag

A variation of musical chairs, this game is played by having playground equipment or other objects suspended from ropes. Riders grab the objects while their bikes are in motion. Those who fail to grab objects when the "stop" signal is given must drop out. The rider remaining in the game longest wins. Large balls or other objects lying on the ground can also be used in a pick-up version of the game. Confine the riders within definite boundaries.

Pick and Put

This game is designed to develop sprint technique and the ability to mount and dismount a bicycle quickly. It requires two goals at least 50 feet apart.

Choose two teams with an even number of riders on each. Select ten or fewer small objects--potatoes, empty cans, stones, rubber balls--which a rider can carry in one hand. Draw two two-foot circles side-by-side at each end of the course. Place half the small objects in one circle at one end, the others in one circle at the other end. Object of the game is to transfer all objects in one circle to the empty circle at the opposite end before the opposing rider can do the same thing. Only one object is carried at a time.

Teams line up at opposite ends. At a signal, one member of each team mounts his bike and rides to the other end, dismounts and picks up an object from the circle. He then remounts and rides back to the

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*Games should be chosen according to the ability and experience of the bicyclists, and availability of space and equipment. Students might begin with easier games and progress to more difficult games as their skills increase. Games are reprinted from *Guide for Leaders: 4-H Bicycle Program*. U.S. Department of Agriculture, Extension Service, Washington, DC 20250.

starting point, dismounts and places the object in the empty circle. He continues this routine until all objects from the other end have been transferred to his team's end. The rider who finishes first earns ten points for his side. In case of a tie, points are split. If a rider drops the objects enroute, he is disqualified and the other team scores. If riders collide or if one becomes dismounted but retains his object, riders may remount and continue the game. The game continues until all riders have completed the course. Highest scoring team wins.

Paul Revere

This is a speed test. Select two teams with the same number of riders on each side. Have them line up astride their bikes in two lines 30 feet apart. Space members five feet apart in line. Players count off from right to left. When the leader calls off a number, the two players with that number mount their bikes and ride clockwise around both lines and back to their starting points. The rider arriving last drops out of the game. After all numbers have been called, the team with the most riders left wins.

Shipwrecked

Select a large playground or parking lot. Line up all players on one side, side-by-side facing the center of the lot. Place a large piece of paper, sandbag, or other target made of something soft and harmless in the open area. Each player in turn rides forward, is blindfolded, and rides out to mark the target. Other players on bikes surround him at a safe distance and clap their hands when he gets warm, reducing their clapping as he goes away from the target. When he thinks he has reached the target, the blindfolded rider gets off his bike and marks the spot with a stick or other marker. The rider who comes closest to the target wins the game.

Hitting the Target

This game requires skill and good coordination. Set out four to six coffee cans, bowls, or other receptacles in a row about 15 feet apart along a 100-foot course. If the ground is soft, press the containers into the ground with open end up. Give each rider a supply of marbles, bottlecaps, small stones, or similar objects. Contestants then ride along the course dropping a marker in each can. Award one point for each hit.

A variation of this game is to number each rider and each can. Each rider is required to drop his marker in the can with his number on it. Riders who miss their cans are eliminated. Repeat the course until only one rider is left as the winner.

Spud

This game is played in a large open area with a softball or volleyball. One player becomes "it" and stands with his bike and the ball in the center of a circle. The other players ride their bikes around the circle until "it" calls one of their names and tosses the ball into the air. The player whose name is called rides for the ball, dismounts and picks it up. Meanwhile, the other riders scatter, including "it."

When the person called has retrieved the ball, he yells, "Halt," and every rider must stop immediately, straddling his bike. The player with the ball returns to the center of the circle and attempts to hit one of the other bikes by rolling the ball at it. Riders cannot move themselves or their bikes, and thrower cannot move away from center of the circle. If thrower misses bike, one dud is counted against him and he becomes "it." If he hits the bike with the ball, that player gets one dud and becomes "it." When a player gets three duds, he is disqualified or penalized in some manner.

Pursuit Race

This is an elimination race determined by speed. Line up all contestants about three feet apart at the starting line. Start the race with a whistle or other signal. Object of the race is to pass the leader. As the leader is passed by another rider, he must drop out. This continues until only one rider is left and he crosses the finish line.

Mixed Distance Race

This is a relay race with each team member riding a different number of laps. It is most interesting when the distances are mixed with fewer laps coming at either end or as sprint laps. As a contestant completes his required number of laps, he passes a baton or touches the hand of his successor. The team that finishes first is the winner.

Reds and Whites

Select two teams, Reds and Whites. Lay out a 200-foot field with a center line, two lines ten feet back from the center on each side, and end lines 100 feet from the center. Players line up five feet apart on their own line ten feet back of the center line. Teams face each other.

A starter stands at the end of the center line and tosses a red and white disc. He calls the side that comes up. The players on the side not called mount their bikes, turn around and ride as fast as possible to their own back safety line. The team whose color is called mounts and chases them, tagging as many of the other team as possible

before they cross the safety line. Those tagged become members of the other team. The winning team is the one with the most players after a limited number of tosses of the disc.

Ride, Sheep, Ride

Divide riders into two teams, Sheep and Hunters, and select a home base. While the Hunters close their eyes or remain indoors, the Sheep and their leader ride out to hide. They agree on a set of signals to be called by their leader. These might include short or long horn blasts, a whistle, or special words such as "Indians" or "Cowboys" meaning "lie low," "move up toward base," "get ready to ride for home" or other commands. When all Sheep have been hidden, the leader returns to home base and rides out with the Hunters. He calls signals as appropriate to keep his team from being discovered. When he thinks the Hunters are off guard or far enough away, he yells, "Ride, Sheep, Ride."

At this signal the Sheep emerge from their hiding places and ride fast for home base. Hunters also race for home. The full team that arrives home first wins. This team is the "Sheep" for the next game. If cover is not plentiful, it may be necessary to divide your group into several teams of "Sheep" and "Hunters" with different home bases.

Tug-O-War

This is a game of team strength and endurance. Stretch a long rope on a level surface, tie a handkerchief in the middle, and put out markers or stakes four yards apart. Line up the two teams on opposite sides of the markers with the rope stretched between them so that the handkerchief is midway between the two markers. Riders face away from the middle. Each player grasps the rope with one hand. At the command, "Ready," he mounts his bike and establishes balance by a slight, even pull on the rope. On the command, "Go," all riders pedal hard and pull on a rope. Object is to pull the handkerchief past the marker on your side. If a rider's body or foot touches the ground, he is disqualified and the game continues without him.

Run and Ride Race

Contestants in this race start by either riding or running beside their bikes for a given distance. They then change to the opposite, alternating as often as desirable until they complete the course.

Simple Relay Race

Line up teams in single file behind starting line. At the signal, first player on each team rides out to goal 100 feet away, turns around and rides back, touching off second rider. He then takes his place at rear. Players move up to starting line as their turn approaches. Winner is team whose last man returns to starting line first.

Plank-riding Race

Lay out a series of wooden planks, five to six inches wide, for a distance of at least 150 feet. Contestants try to ride the entire distance without running off the planks. The rider who completes the course in the fastest time with the fewest slips off the plank is the winner.

Potato Relay

Obtain four to six potatoes for each team. Place potatoes in a box or basket at the starting point for each team. Mark off a series of circles five yards apart in front of the box. Start the game with all potatoes (blocks, stones, etc.) in the box. First rider takes one potato, places it in first circle, and returns to the starting point. Second rider takes second potato and places it in second circle. Repeat until all potatoes have been placed in circles. Then reverse procedure, retrieving one potato at a time. Team that finishes first wins.

Game can be varied by having one player on each team place all potatoes before second player takes his turn. Game can also be reversed with all potatoes placed in circles at beginning and retrieved and replaced one by one. If only a few players are available, game can be played as race against time with fastest player declared winner.

Dizzy Relay

Place round poles or other objects players can ride around from 50 to 100 feet in front of starting point. Line up teams in single file. At signal, first rider on each team rides to goal and circles it at least three times. If pole is used, he keeps one hand on it as he rides around. He then returns to base and tags next rider on his team who repeats procedure. Team finishing first wins game. Files should be at least ten feet apart and all riders should circle poles in same direction to avoid collisions.

ACTIVITY #12

Mini-unit Topic: Studying the Uses of Bicycles

Approximate Class Time: 2-3½ periods, plus out-of-class time

Capsule Activity Description: Students demonstrate, in a series of experiments, the potential use of bicycles for commuting.

Goal:

To be aware of the potential advantages and disadvantages of commuting to school or work by bicycle as opposed to commuting by other forms of transportation.

Concepts Treated:

- Many forms of transportation, both public and private, are available for commuting from home to school or work.
- Each form of transportation, including the bicycle, has certain advantages and disadvantages for commuting.
- Other conditions, such as traffic and weather, also affect the desirability of different transportation modes for commuting.

ACTIVITY

Students in small groups compare different forms of transportation used for commuting from home to school or work by traveling the same routes with different vehicles. The purpose of the activity is to weigh the advantages and disadvantages of commuting by bicycle. The groups use a map of the community and plot out a commuter route used by many community persons. An arbitrary "home" is selected for the starting point, and a factory, school, or large place of employment is selected as the destination.

Students decide what modes of travel they will use other than bicycling, such as car, bus, or rapid transit. The groups then determine what should be observed during the trip, such as

- How long the trip takes and what delays or speeds it up
- How weather conditions affect the trip's speed, comfort, and safety

- What safety practices or regulations are or are not observed
- How traffic conditions affect the trip's time, safety, and comfort
- What the commuter's mental attitudes are before and after the trip--relaxed? jittery?
- Other characteristics of the trip which affect speed, safety, and comfort, such as baggage and clothing

The groups should be aware that the experiment will not be a reliable indicator of the advantages and disadvantages of commuting by bicycle if the participants take special pains to make their trip as fast as possible (or faster than normal).

The groups decide when to make the trip--morning or afternoon rush hours--and set specific starting times. They also decide who is going to use which modes of transportation. After completing the trips, the groups compare individual results and draw appropriate conclusions about what mode is best, and why. In particular, the groups discuss the advantages and disadvantages of bicycle commuting. The groups prepare and present a report to the class, responding to comments and questions from you and the class.

Evaluation Methods:

Students role-play scenarios in which proponents of different modes of commuting argue the merits of their chosen mode.

The class debates the proposition, "Resolved that it makes more sense in terms of safety, speed, energy conservation, and comfort to use a bicycle to commute from the Heights to the Frodo Furniture Factory."

Variations and Supplementary Activities:

Students determine reasonable commuting distances for bicycle travel in their area.

Students can compare modes during off-peak hours.

Students who cannot take trips can take traffic counts at several strategic spots along a commuter route. Students analyze the results in terms of how traffic might affect different modes of commuting.

Students can compare the costs of parking bicycles and cars.

Students can discuss whether and how the bicycle can be promoted as a method of commuting.

ACTIVITY #13*

Mini-unit Topic: Studying the Uses of Bicycles

Approximate Class Time: ½-1 period

Capsule Activity Description: A class discussion is held on the advantages and disadvantages of bicycling.*

Goal:

To be aware of why people do and do not own bicycles, including advantages over other modes of transportation (relaxation, speed of travel) and disadvantages (expense, inconvenience in bad weather).

Concept Treated:

- One should consider both the advantages and disadvantages of owning a bike before purchase.

ACTIVITY

A class discussion is held on reasons people might want to buy or ride a bicycle and reasons why they might not.

Advantages to owning and riding a bike that can be discussed include

- Bicycling is an inexpensive way to travel compared to travel by car.
- Bicycling is faster than walking and more efficient in its use of body energy.
- Bicycling can be faster than traveling by car when there is a lot of traffic.
- There are often fewer parking problems for bicycles than for cars; in addition, it may be possible to park a bike closer to one's destination than a car can be parked.

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*This activity also appears in Mini-unit 1.

- Bicycling conserves fuel resources.
- Bicycles do not pollute the air.
- Bicycling promotes health by providing exercise and an opportunity to get outside.
- Bicycling is fun for both adults and children.
- Bicycling can be relaxing, both in its own right and compared to driving a car in traffic.
- Bicycling can afford opportunities for meeting interesting people.

Disadvantages to owning and riding a bike that can be discussed include

- Bicycling can be unsafe, particularly in traffic. (However, driving an automobile and walking may be as dangerous or more so per mile traveled.)
- Bicycles are expensive.
- Bicycles are easily and frequently stolen.
- Bad weather--rain, cold, snow, and wind--make bicycle riding unpleasant or impossible.
- Bicycles cannot be used conveniently over long distances that must be traveled quickly.
- Smog and pollution, particularly from car exhausts, can make bicycling unpleasant and unhealthy.
- Owning a bicycle requires some maintenance.
- It is difficult or impossible to transport may things on a bicycle.
- It is difficult and risky (in terms of damage or sweating) to wear good clothing while bicycling.
- Riders must have a minimum of good health and physical dexterity to ride a bicycle.
- Bicycling may be difficult even for the physically fit in hilly or mountainous areas.

Evaluation Method:

Each student writes a scenario involving an individual's need to get somewhere within the community. Students exchange scenarios and

each student evaluates whether using a bicycle would be a good way to meet the transportation need described in the other student's scenario.

Variation and Supplementary Activity:

This activity can be a class or small group discussion in which students decide what the advantages and disadvantages are of owning and using a bicycle.

MINI-UNIT 3

IDENTIFYING SAFE BICYCLING PRACTICES

Mini-units 3, 4, and 5 focus primarily on bicycling safety, although as we noted in the introduction to Mini-unit 1, safety is a theme in several of the other units as well.

Mini-unit 4 investigates why people ride dangerously, whereas Mini-unit 5 discusses how students can and should respond to other bicyclists who ride dangerously. This mini-unit (Mini-unit 3) takes up safe bicycling practices--identifying them and pointing out why they should be followed.

There are a great many misconceptions about how to ride safely (for example, which side of the road to ride on) that need to be corrected In addition, there are numerous bicycling hazards (such as sewer gratings) that many bicycle riders--both new and old--are unaware of. This unit seeks to dispel such misconceptions and point out these hazards.

However, many times people ride their bicycles dangerously even when they know how to ride safely. Therefore, Mini-unit 4, which discusses affective causes of unsafe bicycling behavior, is an important follow-up unit to this one.

Among the concepts addressed in this mini-unit, the following are especially important:

- Careless bike riding can be very dangerous, leading to a wide variety of potentially serious--or even fatal--accidents and injuries.
- Bicycle safety rules--if followed carefully--can prevent serious bike accidents.
- Under given circumstances that are explainable by scientific concepts, accidents may become unavoidable; it is therefore wise to understand the concepts, so that one may avoid the circumstances.

MINI-UNIT 3 LESSON PLAN

Identifying safe bicycling practices

Activity #	*Activities*	*Class Time*
14	DESCRIPTION: Students write descriptions of the dumbest and the greatest things they have ever done on a bicycle. GOAL: To know about bicycle safety rules and be aware of how bicyclists might be tempted to break these rules on the spur of the moment.	1-2 periods
15[a] Spirit Master #1	DESCRIPTION: Students take a poll on their experience with bicycles. GOAL: To know about different kinds of unsafe bicycling practices, the kinds of traffic rules that cyclists are most likely to break, and the kinds of persons who are most prone to engage in unsafe bicycling practices.	½-1 period
16[a]	DESCRIPTION: The class discusses bicycle safety. GOAL: To know the potential hazards of bike riding, the rules that should be followed to avoid these hazards, and the reasons these rules have been made.	½-1 period
17	DESCRIPTION: Students play a card game that requires them to distinguish between safe and unsafe bicycle riding. GOAL: To be able to distinguish between safe and unsafe bicycling practices.	1 period

[a]This activity also appears in Mini-unit 1.

MINI-UNIT 3 LESSON PLAN (CONTD.)

Identifying safe bicycling practices

Activity #	*Activities*	*Class Time*
18 Spirit Master #7	DESCRIPTION: Students engage in scientific experiments that illustrate bicycle safety concepts. GOAL: To know about scientific principles that apply to bike riding and bike safety.	½-1 period, plus out-of-class time
19	DESCRIPTION: Students use flashcards to learn the meaning of traffic signs. GOAL: To know the meaning of both standard and non-standard traffic signs.	½-1 period
20[a] Spirit Masters #2 and #3	DESCRIPTION: Students play a board game that teaches the differences between safe and unsafe bicycle practices. GOAL: To know various bicycle safety rules, and be aware of the reasons they were made.	½-1 period

[a]This activity also appears in Mini-unit 1.

Total Class Time: 4½-8 periods.

ACTIVITY #14

Mini-unit Topic: Identifying Safe Bicycling Practices

Approximate Class Time: 1-2 periods

Capsule Activity Description: Students write descriptions of the dumbest and the greatest things they have ever done on a bicycle.

Goal:

To know about bicycle safety rules and be aware of how bicyclists might be tempted to break these rules on the spur of the moment.

Concepts Treated:

- Opportunities to perform special tricks or take certain risks on bicycles sometimes occur but often do not seem worth it after the experience is over.
- Dangerous tricks on bicycles may seem great at the time, but dumb in retrospect.
- Great experiences on bicycles often do not necessitate breaking any of the bicycle safety rules.

ACTIVITY

Students who ride or have ridden bicycles write brief (½ page) descriptions of the dumbest and the greatest things they have done on a bicycle.

Students break into small groups and are given written instructions to

1. Read each other's papers.
2. Place themselves in the situations that resulted in the dumb behavior and discuss and record answers to the following: (a) What was "dumb" about the incident? (b) Did you feel the incident was "dumb" at the time? (c) Would you ride again in a similar fashion? Why?

3. Place themselves in the situations that resulted in the greatest thing done on a bicycle and discuss and record answers to the following: (a) What was "great" about the incident? (b) Did the "great" experience involve any risks? If so, what risks? (c) If there were risks, was the experience worth it? Why? (d) Could the experience have been as "great" without the risks? If so, how? If not, why not?

Groups report their results to the class and respond to questions and criticisms from you and the class. You may want to comment in particular on the subjectivity of the terms "dumb" and "great"--that what seems dumb or great to one person may not to another.

Evaluation Method:

Students analyze any other two students' papers and discuss whether they agree the behavior was dumb or great, and why.

Variations and Supplementary Activities:

This activity can be conducted as a class discussion or given as a written homework assignment.

Students can write about the dumbest or greatest thing they have seen others do on a bicycle in real life or in movie or television scenes.

ACTIVITY #15*

Mini-unit Topic: Identifying Safe Bicycling Practices

Approximate Class Time: ½-1 period

Capsule Activity Description: Students take a poll on their experience with bicycles.*

Goal:

To know about different kinds of unsafe bicycling practices, the kinds of traffic rules that cyclists are most likely to break, and the kinds of persons who are most prone to engage in unsafe bicycling practices.

Concepts Treated:

- There are many different reasons why people ride bicycles safely or unsafely.
- Parental attitudes, peer pressure, and previous experiences (such as accidents) influence bicycling habits.
- Unsafe bicycle riding practices can be easily identified.
- Bicycling practices may vary according to the age and sex of the bicyclist and the purpose of the bicycling trip.

ACTIVITY

Before taking an experience poll, students anonymously write on a blank questionnaire their predictions concerning the results of a class poll.

Students take the poll anonymously. A questionnaire students can use is provided on Spirit Master #1. Students may help you tabulate the results immediately afterwards on the blackboard. The class compares predictions with reality and discusses any discrepancies between the two.

Raise issues of how, why, and when people bicycle, using poll results as a takeoff point. For example, do students who bicycle to

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*This activity also appears in Mini-unit 1.

school or work behave more or less safely than those who bicycle for fun? Do boys or men bicycle less safely than girls or women? You can also raise the issue of why students and other people ride more or less safely. Does bicycling behavior vary according to age, sex, parental attitudes and behavior, peer pressures, previous bicycling experiences, or other factors? See if your students can identify the safe and unsafe bike riding behavior underlying Questions 5 through 14. Results of the poll can be compared with National Safety Council findings on the most common cyclist traffic violations which are listed below:

1. Riding in the middle of the street
2. Failure to yield right-of-way
3. Riding too fast
4. Disregarding traffic signs or signals
5. Riding against the traffic

Evaluation Method:

Students write a class profile of their bicycling experiences.

Variation and Supplementary Activity:

Students can develop their own questionnaires, either as a class, in small groups, or individually. Other students can respond to the polls.

ACTIVITY #16*

Mini-unit Topic: Identifying Safe Bicycling Practices

Approximate Class Time: ½-1 period

Capsule Activity Description: The class discusses bicycle safety.*

Goal:

To know the potential hazards of bike riding, the rules that should be followed to avoid these hazards, and the reasons these rules have been made.

Concepts Treated:

- Careless bike riding can be very dangerous, leading to a wide variety of potentially serious--or even fatal--accidents and injuries.
- Bicycle safety rules--if followed carefully--can prevent serious bike accidents; such rules include obeying normal traffic regulations, using or wearing special equipment, making an effort to concentrate on what the other fellow is doing on the road, and being sure to keep one's bicycle well maintained and in good condition.

ACTIVITY

Conduct a class discussion on bicycle safety. Such a discussion should consider the topics given below:

Basic information about numbers, types, and causes of bicycle-related accidents in the United States should be given:

Bicycle accidents cause the most injuries requiring emergency ward treatment each year (460,000).

There are 1 million bicycle-related injuries a year, including 60,000 concussions and 120,000 fractures.

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*This activity also appears in Mini-unit 1.

Bicycle accidents cause 1000 deaths a year--3 a day.

Twenty percent of bike accidents occur in rural areas.

Approximately 26 percent of bike fatalities occur at night.

Two-thirds of bicycle deaths involve children aged 5 to 14 years.

Bicyclists are not protected in spills or crashes, while auto drivers are.

Additional safety information is provided in the Consumer Product Safety Commission report at the end of this activity.

Major safety rules should be described:

Obey the laws.

Ride with the traffic; riding against traffic can result in running into cars coming out of driveways and roads, because auto drivers do not check for traffic coming down on the wrong side of the street; running into doors opened from parked cars for the same reason; running into cars on curves, since car drivers will hug the inner side of the road and cannot see a bike rider (nor can the bike rider see the car) until it is too late; compounding the speed of the car and the bike if they collide; and colliding with an automobile or other vehicle head-on.

Do not speed; speeding makes it harder to avoid pedestrians, potholes, glass, sand, drains, and other vehicles.

Signal all turns, so that cars don't run into you as you turn.

Don't hitch rides with other vehicles.

Don't ride sidesaddle or on the handlebars.

Don't weave in and out of traffic.

Special situations and equipment that can be mentioned include

Use lights, reflectors, and light-colored clothing when riding at night; the French two-way armband light is especially good.

Slow down in rainy weather to avoid skids (wet leaves are especially dangerous); brakes, especially caliper ones (hand brakes), function poorly in wet weather.

Wear protective helmets, particularly when riding on streets or highways.

Wear clips over long pants to keep cuffs from catching in gears; make sure shoelaces are short for the same reason.

Avoid traffic whenever possible.

Don't ride two or more abreast on the road; keep single file.

Avoid bicycles with high handlebars and small wheels--they are involved in a large percent of accidents because they are less stable.

Avoid trying tricks such as "wheelies" (riding on rear wheel only) and "jumpies" (slamming on the brakes so the bike will fly through the air).

Do not ride a bicycle that is too small or too large.

Concentrate while riding:

Watch for cars coming out of driveways and side streets.

During sunsets and rainy days, be especially careful of cars because they may not be able to see you.

Watch out for sudden moves by pedestrians.

Listen for cars coming up behind you.

Look out for opening doors on parked cars.

Watch out for potholes, drains, sand, and glass.

Be especially careful and observant at intersections.

Maintenance of bicycle is discussed in Activity 33, a class discussion on bicycle maintenance. Maintenance tasks include tire care, lubrication, tightening bolts and screws, adjusting brakes, keeping bicycle dry and clean.

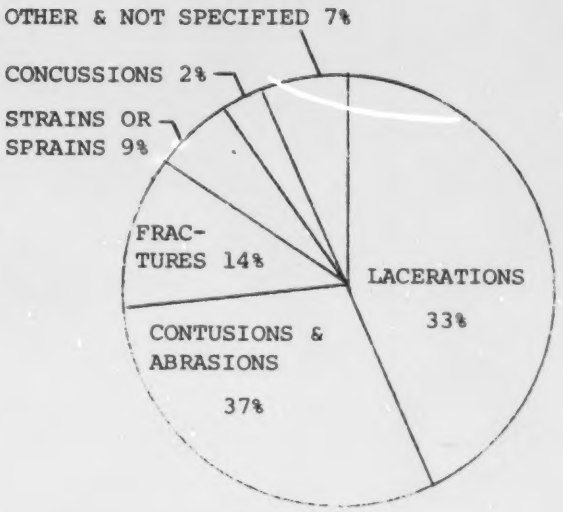
Bicycle registration: In an emergency, a bike registration may help police to contact parents or other relatives. In addition, some communities require bicycles to be registered with the police. Does yours?

Class discussion can follow on such issues as why many riders commonly ignore many of these safety rules and what can be done to encourage riders to practice these rules.

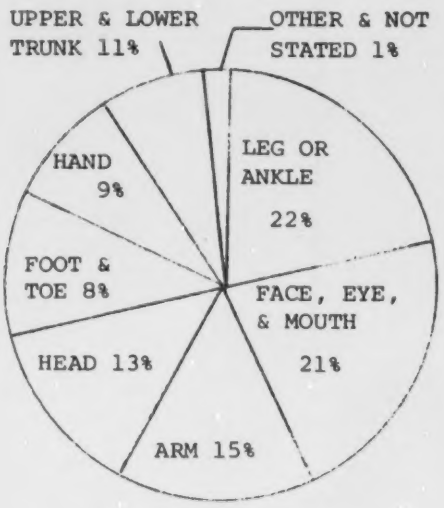
Evaluation Method:

Each student writes a first-person autobiographical account of a bike trip that involves as many safe riding practices as possible. Students exchange papers and one student identifies all the safety items included in the other student's paper.

Summary of NEISS Matrix Data on Bicycle Injuries
From Consumer Product Safety Commission



TYPE OF INJURY



BODY PART INJURED

For 7/1/75 through 6/30/76 injury cases reported by the National Electronic Injury Surveillance System. Total bicycle injuries were 21,117 for this period.

During the 12-month period, July 1, 1975 through June 30, 1976, data on 21,117 injuries associated with bicycles were collected by the National Electronic Surveillance System (NEISS). The majority (70 percent) of the victims suffered either lacerations or contusions and abrasions. Fractures were third, accounting for 14 percent of the injuries. There is broad distribution among body parts injured. Most (74 percent) of the injuries were to children under 15. However, injuries to bike riders over 15 occurred with frequency and severity sufficient to merit consideration. Twice as many males as females suffered injuries.

Reasons for accidents are similar for both sexes in all age groups. Losing control is one of the most common factors cited in bicycle accident investigations. However, in many cases, loss of control followed some other factor such as riding double, stunting, and foot slippage; or resulted from poor design or component failure. The chart below breaks down bicycle injuries by age and sex as identified by NEISS.

AGE AND SEX DISTRIBUTION

AGE	*PERCENT*	*AGE*	*PERCENT*
0- 2	1	20-24	5
2- 4	9	25-34	4
5- 9	31	35-44	2
10-14	33	45-54	1
15-19	13	55-64	1
		65+	Less than 1

SEX	*PERCENT*
Males	67
Females	33

ACTIVITY #17

Mini-unit Topic: Identifying Safe Bicycle Practices

Approximate Class Time: 1 period

Capsule Activity Description: Students play a card game that requires them to distinguish between safe and unsafe bicycle riding.

Goal:

To be able to distinguish between safe and unsafe bicycle practices.

Concepts Treated:

- There are many dangerous bicycle-riding practices.
- Dangerous bicycle-riding practices must be identified if they are to be avoided.

ACTIVITY

Students play a card game that requires them to distinguish between safe and unsafe riding. The class breaks into small groups of no more than four students, and each group is given a duplicated copy of the game cards at the end of this activity. It cuts them out and pastes them onto cardboard for durability. Students are then given or read the playing instructions on the following page. The answer key is provided after the instructions.

Evaluation Method:

Game is self-evaluating.

GAME INSTRUCTIONS

The game is played along the lines of gin rummy, with certain exceptions noted below. There are 45 cards. Some describe safe and others unsafe things to do on a bicycle. The cards are numbered 1, 2, or 3. The object of the game is to decide which cards are "safe" and which "unsafe" and to meld (combine) cards in series of three according to this difference. The winner is the player who melds the most cards when the entire deck has been used. Playing instructions follow.

1. Game can be played by 2-4 students. If only two students play, use half the deck.

2. To determine who goes first, each player picks one card at random; player with the card having the greatest number of words goes first. Play proceeds clockwise.

3. Shuffle the cards and deal out six cards to each player. Place the rest of the deck face down. Turn top card face up placing it next to the deck to form a discard pile.

4. First player has two choices: he may select the card that is face up or take a card from the top of the deck.

   (a) If he selects the one that is face up, he must make a meld. In fact, anytime a player picks a card from the discard pile of face up cards, he must meld. He then discards one card face up onto the discard pile.

   (b) If the player takes the card from the top of the deck, he may either retain that card or discard it. If he retains it, he must discard another card.

5. Other players take their turns until there are no more cards in the deck.

6. The purpose of the game is to meld as many cards as you can. The player who melds the most cards by the time the deck is gone wins.

7. Players may meld only when it is their turn. *All melds must have all safe or unsafe cards,* no mixtures of safe and unsafe. Cards can be melded that are numbered 1, 2, 3 in a row or have the same number (1, 1, 1; 2, 2, 2; or 3, 3, 3). Three cards must be included in each meld.

8. Players may not add to melds of other players (as they can in gin rummy).

9. If a player makes a meld that is a mixture of safe and unsafe cards, he may be challenged by any other player. If the challenger is correct (decided by consulting the answer key), he is given the melded cards to use as he wants: he may keep them in his hand, discard them, or keep some and discard others. If the challenger is wrong, he must let the challenged player pick any two cards at random from his hand. The challenged player may keep or discard these two cards.

ANSWER KEY

1. Unsafe
2. Unsafe
3. Safe
4. Safe
5. Unsafe
6. Unsafe
7. Unsafe
8. Unsafe
9. Safe
10. Unsafe
11. Safe
12. Safe
13. Safe
14. Unsafe
15. Unsafe
16. Safe
17. Safe
18. Safe
19. Unsafe
20. Safe
21. Safe
22. Safe
23. Unsafe
24. Safe
25. Unsafe
26. Unsafe
27. Unsafe
28. Safe
29. Unsafe
30. Unsafe
31. Unsafe
32. Unsafe
33. Safe
34. Safe
35. Unsafe
36. Unsafe
37. Safe
38. Unsafe
39. Safe
40. Safe
41. Safe
42. Safe
43. Safe
44. Safe
45. Safe

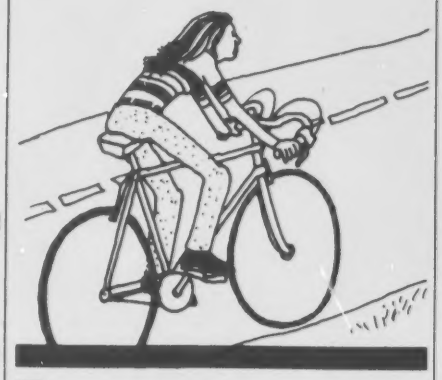
Note: Playing card numbers are found in bottom right-hand corner of card.

1 Carrying someone sidesaddle

1

2 Carrying a package under one arm

2

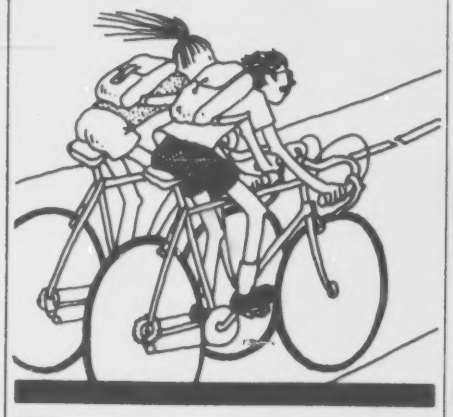


1 Riding on the right-hand side of the road

3

2 Signaling a right-hand turn

4



3 Riding next to each other on roads and streets

5

1 Riding with soft or flat tires

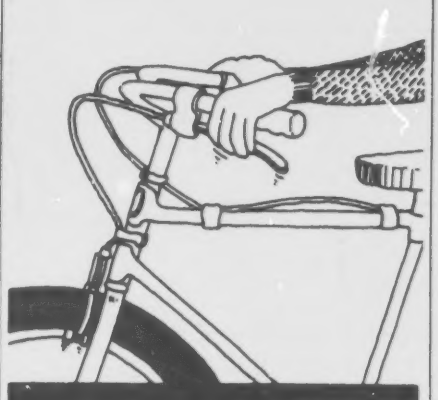
6

2 Not slowing down when riding in the rain

7

3 Riding at night without lights

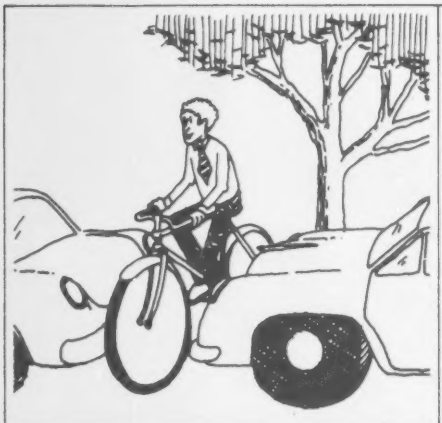
8



3 Checking brakes to see if they work

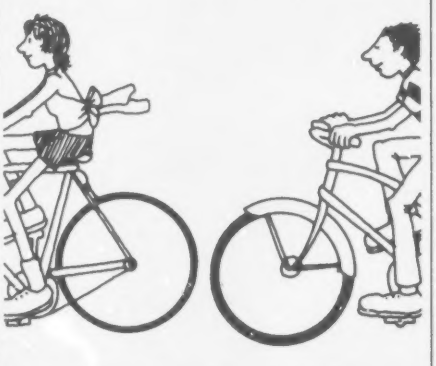
9

Cut along thin lines



2 Riding into street from between parked cars

10



1 Riding behind or in front of your friends bike on roads and streets

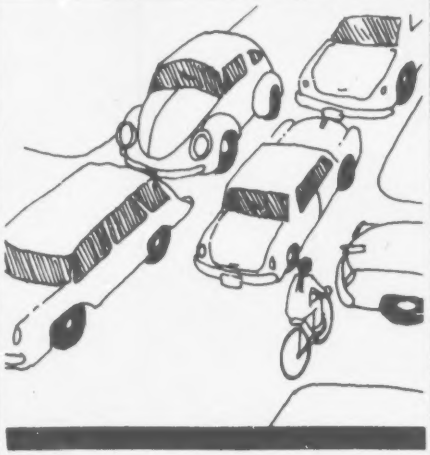
11

2 Checking the air in your tires

12

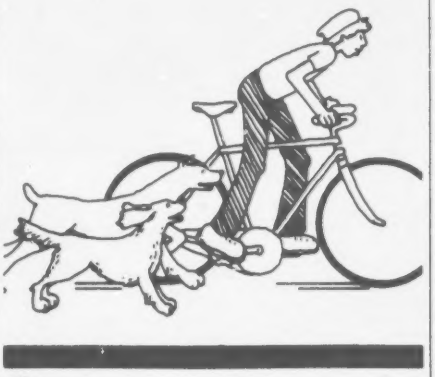
3 Using your brakes sooner when it rains

13



3 Riding across busy cross-roads and intersections

14



1 Speeding up to avoid dogs

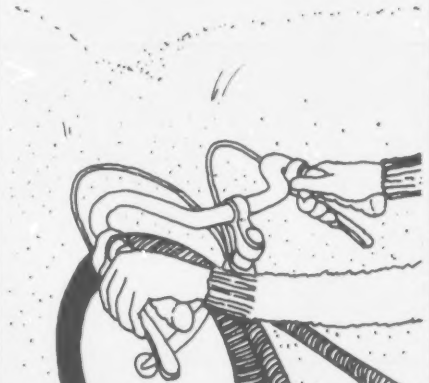
15

1 Slowing down when chased by dog

16

2 Listening for cars behind you

17



3 Slowing down in sand

18

97

86

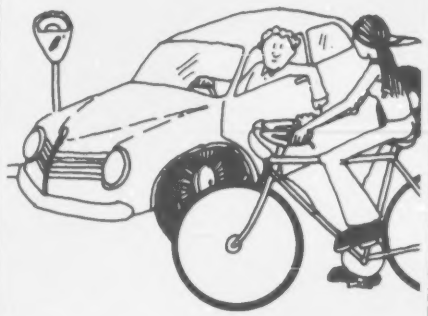
Cut along thin lines

1 Riding on the left-hand side of the road

19

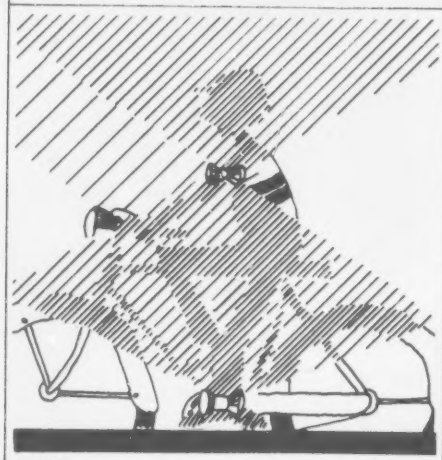
1 Signaling a left-hand turn

20



2 Looking for parked cars to pull out

21

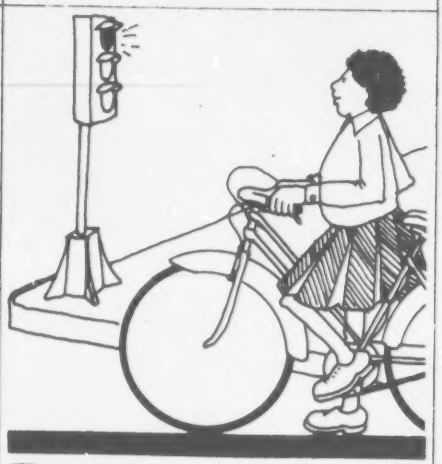


3 Riding at night with lights

22

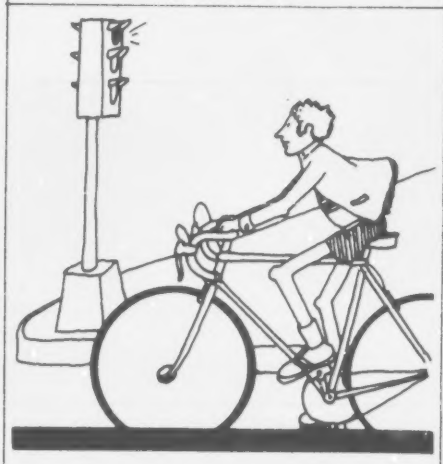
2 Wearing dark clothing at night

23



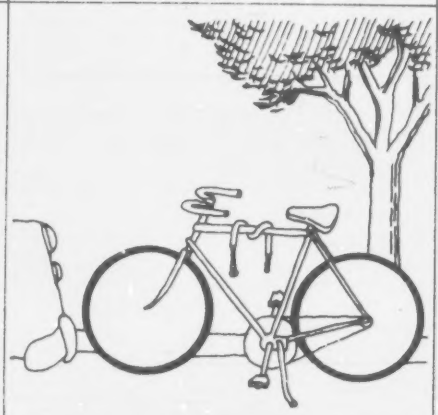
1 Stopping for red lights

24



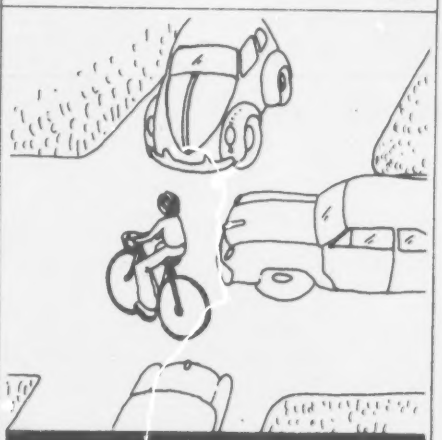
Not stopping for red lights

25



1 Parking your bicycle in the street

26



2 Not signaling when making a turn

27

Cut along thin lines

1 Riding on the sidewalk when its legal

28

1 Riding without both hands on the handlebars

29

2 Riding toward the traffic

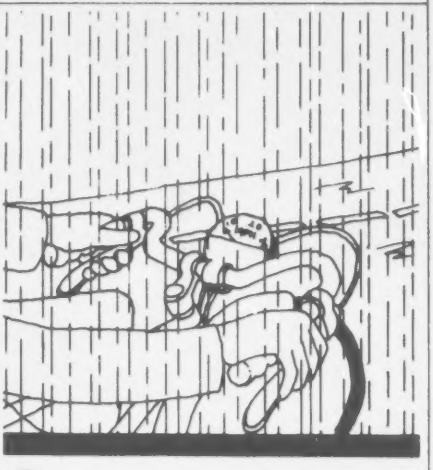
30

3 Riding with one hand on the handlebars

31

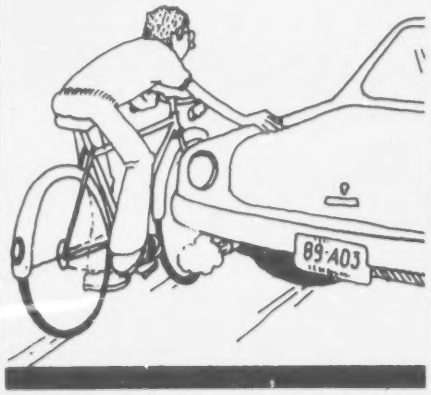
1 "Popping a Wheelie" (riding with one wheel off the ground)

32



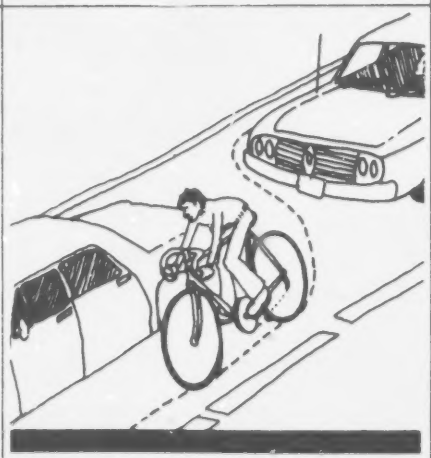
2 Riding more slowly in the rain

33



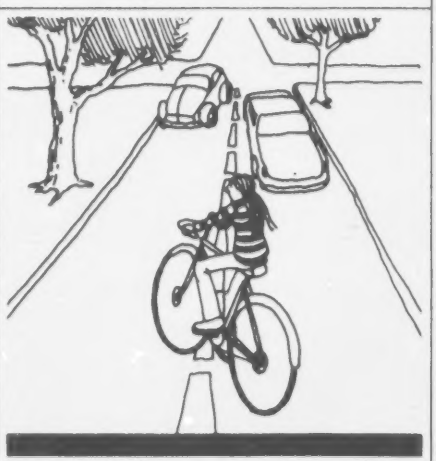
2 Hitching a ride by holding onto a moving car

34



3 Weaving in and out

35



1 Crossing in the middle of the street

36

Cut along thin lines

2 Looking for parked cars to suddenly open their doors

37

3 Riding barefooted

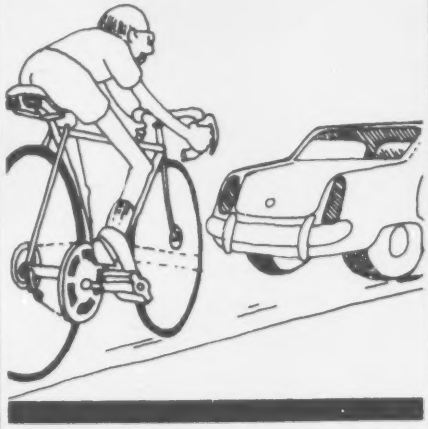
38

3 Wearing light-colored clothing at night

39

1 Slowing down at crossroads

40



2 Riding with the traffic

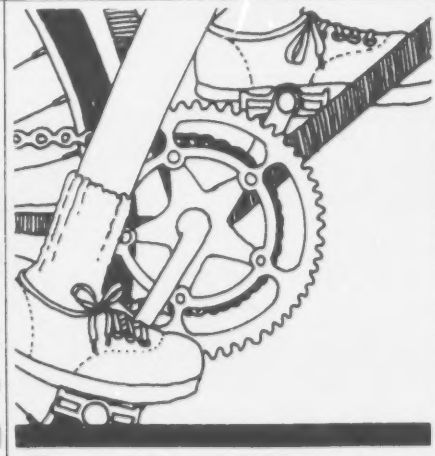
41

3 Riding vertically across a grate

42

1 Stopping for pedestrians

43



2 Riding wearing shoes or sneakers

44

3 Walking your bike across a busy street

45

Cut along thin lines

ACTIVITY #18

Mini-unit Topic: Identifying Safe Bicycling Practices

Approximate Class Time: ½-1 period, plus out-of-class time

Capsule Activity Description: Students engage in scientific experiments that illustrate bicycle safety concepts.*

Goal:

To know about scientific principles that apply to bike riding and bike safety.

Concepts Treated:

- Understanding of certain scientific principles, such as friction and inertia, can help one understand the practical reasons for bicycle safety rules.
- Under given circumstances explainable by scientific concepts, accidents may become unavoidable; it is therefore wise to understand the concepts so that one may avoid the circumstances.

ACTIVITY

Students engage in one or more scientific exercises that illustrate bicycle safety concepts. Sample activities are discussed on the following pages. (Several of these activities require special rooms or equipment.)

Evaluation Method:

Students respond to your written or oral questions on what safety concepts the activities illustrate and how they apply specifically to bicycle safety.

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*Activities are taken from a *Teacher's Guide to Bicycle Safety Activity Projects*, by the American Automobile Association.

Friction. Involve students in a science research project on friction. Assign different facets of the project to separate groups or teams. Some of the questions which they might investigate, report on and demonstrate include

- What is friction?
- How does friction make it possible to control a bicycle?
- What factors determine the amount of friction created between a wheeled vehicle and the surface or condition of the surface?
- What effect do bumps and hollows on the road surface have on braking?
- What causes a bicycle to skid?
- How does centrifugal force relate to friction in controlling a bicycle when turning?

Stopping Time. Ask students if it is possible to stop a vehicle, automobile or bicycle, "on a dime". Then ask them how far they think a bicycle travels from the instant the driver sees a hazardous situation (car door opening in front of him) until the bicycle can be brought to a full stop.

Estimates on required stopping distances will vary widely. Students may know that the faster a vehicle is travelling the more distance is needed to stop it. They may realize that the type and condition of the road are also significant factors. Generally, however, students will underestimate stopping distance.

Students can be helped to derive the data on reaction intervals from their own computations. The reaction interval is approximately three-fourths of a second. Students can compute the distance travelled per second at varying speeds by deriving (or simply using) the formula

$$\frac{\text{Speed (in mph) x 5280}}{3600} = \text{Feet per second}$$

Three-fourths of the number of feet per second will be the distance travelled during the reaction interval.

Braking Distance. Students can estimate braking distance. Pass out the minimum stopping distance chart on Spirit Master #7 and have students determine the relationship between braking distances and speed of vehicles. Students may discover that "braking distances are about proportional to the square of the driving speeds". Once the ratio is found, give the class the braking distance at 10 mph (9 feet), and ask them to approximate the distance at 5 mph.

Effect of Decreased Friction. The following demonstration measures the effect of decreased friction on driving control. Have a small student sit on a bicycle. Set the brake. (Two other students may be

needed to help balance him.) Attach a large spring balance to the rear wheel. Have a strong student pull on the balance to find the force needed to slide the rear wheel on the floor. Record the results. Repeat the demonstration after wetting both the wheel and the floor area. Record the results.

Reaction Time. The class can demonstrate that the fastest possible reaction time between the eye and the foot is seven-tenths of a second. Fix two boards about a foot square so that they are exactly eight inches apart. A hole large enough for an ordinary marble to pass through easily is drilled in the top board. The marble will drop the eight inches in exactly two-tenths of a second. To try the experiment a person places his hand immediately under the hole, resting on the bottom board. As soon as he sees the marble dropped, he is to remove his hand because the fastest possible reaction between eye and hand is always longer than that two-tenths of a second.

Night Visibility. Take the class into a room that can be darkened as completely as possible. If there are several rooms that are suitable, choose the largest one. Mark distances on the floor five or ten feet apart. First, select a student in dark clothes to go as far away as possible, and then approach the group slowly. As soon as any child sees him, he should raise his hand. Mark on the floor the distance at which the child first becomes visible. Choose another child wearing some article of white clothing. Again mark the spot where the child becomes visible. Relate this study to the need to wear white when driving a bicycle at night.

Momentum. Once wheels have received the initial start they continue to roll. The harder the pedal is pushed on a bicycle the faster the wheels go; why is this? On the playground, have a cyclist drive his bicycle at a moderate speed. Then tell him to take his feet from the pedals and coast until the bike stops. Let him try it again--this time from a slightly faster pace. Explain to the class that the act of coasting or rolling without mechanical help is due to momentum. The greater the speed, the more momentum and the harder it is to stop. Relate momentum to weight as well, and point out the importance of understanding momentum to safe cycling.

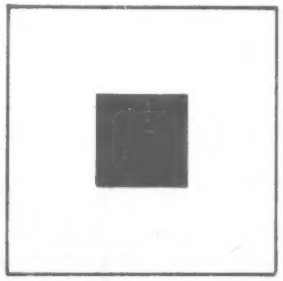
"Force of Impact" Concept. Use two skates to represent cars of equal weight and have two students roll them gently toward each other. Class notes the force of impact when the skates collide. Now ask the students to roll them with greater force; the impact will be greater and will probably make the skates roll backwards. When the students push the skates at each other as hard as they can, the skates will push back with greater force and probably turn over.

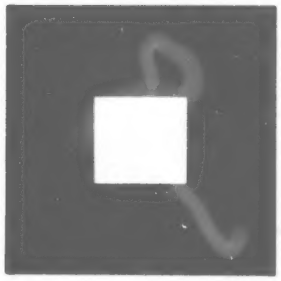
Compare this to cars going at high speeds and colliding on the highway. To measure the actual force of impact, it is necessary to consider the weight of the vehicles, their speed, and the distance traveled following the collision. If the speed is doubled, the force of impact is four times as great. Because the two skates are the same weight and traveling at approximately the same rate, they will receive the same shock of impact.

Rolling a toy car against one skate will demonstrate what a slim chance a small, light car has against a big truck on the road. Students can then better visualize what a cyclist is up against if he should collide with a motor vehicle.

Why Do Light Objects Look Larger than Dark Objects? When a ray of light strikes the light-sensitive elements within the eye, the effect of the light spreads out over a slightly larger area. When we look at a light object on a dark background, the image "spills over" into what should be a darkened portion of the retina. This makes light objects look larger to us. In reverse fashion, a dark object on a light background looks smaller than it really is because light from the background encroaches upon the darkened portion of the retina.

Cut identical small squares of white and dark paper. Place the white spot on the dark background and the same-size dark square on the white background. Students note that the light piece on the dark background looks larger, indicating that white can be seen better than dark colors at night. Relate this to clothing and night-time cycling.





Inertia. To answer the questions so often asked in case of an accident--"Wasn't the driver watching?" "Was he going too fast?"--the class can carry out a few simple experiments to demonstrate stopping distance and reaction time.

1. Walk rapidly in a line around the room looking straight ahead and try to stop when the signal is given. A fraction of a second will elapse before any student can stop completely. What does this mean in terms of a driver applying brakes and the distance even a slow car will travel in that split second?

2. Then experiment with moving objects. Can an object stop instantly when force is applied or when driving force is removed? Out on the playground have the students roll hoops, push express wagons, and drive bicycles (one or two at a time on a given course). What will happen at a signal to stop?

Explain that this failure to stop immediately is the scientific principle of inertia: "A moving object tends to keep moving in the same direction even when stopping force is applied. The heavier the object and the greater the speed at which it is moving, the longer it keeps in motion."

ACTIVITY #19

Mini-unit Topic: Identifying Safe Bicycling Practices

Approximate Class Time: ½-1 period

Capsule Activity Description: Students use flashcards to learn the meaning of traffic signs.*

Goal:

To know the meaning of both standard and nonstandard traffic signs.

Concept Treated:

- There are numerous types of traffic signs, some of which can be differentiated by shape and color and some of which occur only in special places.

ACTIVITY

Students describe the meaning of traffic signs that you or other students present on flash cards. Sample cards with their meanings appear on the following pages.** You might also want to discuss how shape and color often can be used to determine the meaning of the sign: octagon--stop; diamond--caution/warning signs (curve, dip, turn, school, etc.); triangle--yield right-of-way; circle--railway advance warning sign; square--information signs, they tell you what to do; signal light--red light means "Don't Go," amber light means "Don't Go," green light means "Go"; crossbuck--railway crossing.

Students then create signs on flash cards of their own that are peculiar to their own community and not provided on the following pages, such as DEER CROSSING, CATTLE XING, ROTARY, FROST HEAVES, and STEEP HILL. Signs can include writing, pictures, or both.

Students also indicate where in their community each sign should be located.

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*This activity has been adapted from *A Teacher's Guide to Bicycle Safety Activities and Projects* by the American Automobile Association (AAA).

**You may want to paste the flashcards onto cardboard for durability.

Evaluation Method:

Students respond to your written or oral questions concerning where various traffic signs occur, why they are necessary, and what kinds of accidents could happen if the signs were not obeyed.

Variations and Supplementary Activities:

Students can match sign instructions with the appropriate sign shape, or vice versa.

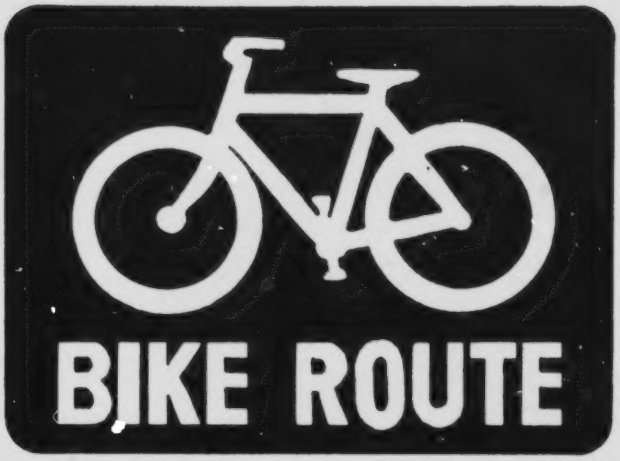
Students can also discuss pavement markings.

Cut along lines

MERGE

DO NOT ENTER STREET HERE

Cut along lines



BIKE PATH PROVIDED

(roadway designated as bike route,
but no separate bike path provided)

TRAFFIC FLOWS ONLY IN DIRECTION OF ARROW

100

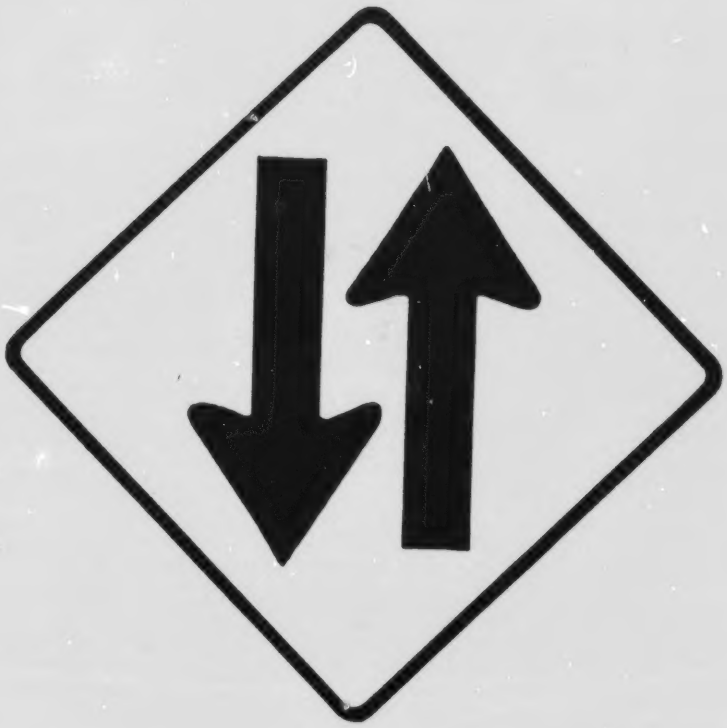
Cut along lines

SCHOOL CROSSING

RAILROAD CROSSING

102

Cut along lines

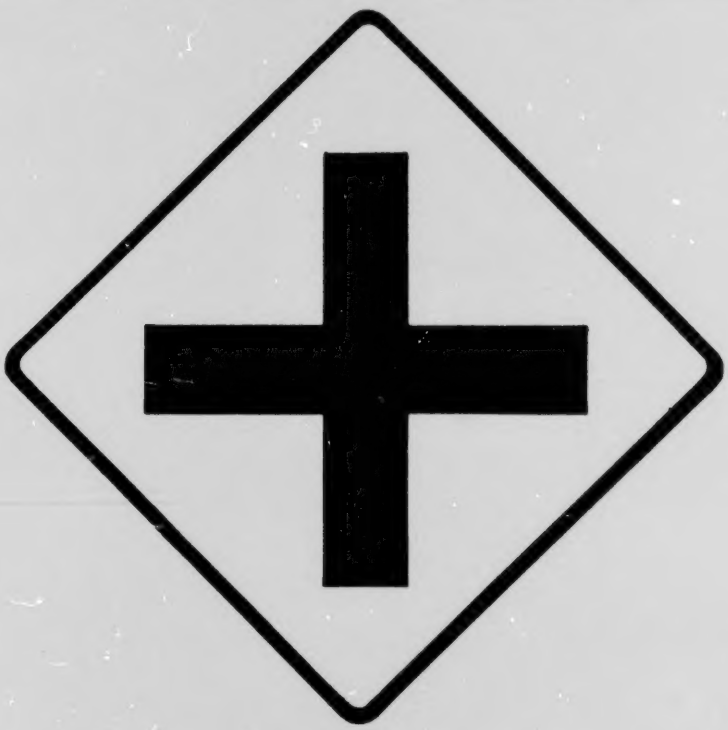


TWO WAY TRAFFIC

SCHOOL

104

Cut along lines



105

CURVE

INTERSECTION

106

Cut along lines

HILL

STREET ENTERING RIGHT

103

Cut along lines

DIVIDED HIGHWAY ENDS

YIELD RIGHT OF WAY

110

Cut along lines

NO LEFT TURN

SLIPPERY WHEN WET

Cut along lines

BIKES PROHIBITED

AUTOMOBILES STOP BEFORE PROCEEDING

ACTIVITY #20

Mini-unit Topic: Identifying Safe Bicycling Practices

Approximate Class Time: ½-1 period

Capsule Activity Description: Students play a board game that teaches the differences between safe and unsafe bicycle practices.*

Goal:

To know various bicycle safety rules, and be aware of the reasons they were made.

Concept Treated:

- There are numerous bicycle safety rules, some of them "common sense" and some of them actual regulations; all of them are meant to prevent bike-related accidents.

ACTIVITY

Students exercise their understanding of the differences between safe and unsafe bicycle habits by playing a simple board game. Materials required include a small gameboard, a set of cards (both provided on Spirit Masters #2 and #3) and a die.

Class divides into small groups of three or four students. Each group is given a set of game materials. The first time the game is played, the students cut out their own safe-unsafe cards and paste the gameboard onto cardboard for durability. Each group will need a die to determine the number of boxes to move on the board. Instructions appear on the following gameboard.

Evaluation Method:

Game is self-evaluating.

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*This activity also appears in Mini-unit 1.

MINI-UNIT 4

INVESTIGATING WHY MANY PEOPLE RIDE DANGEROUSLY

In many cases, unsafe bicycle riding is not a matter of mere carelessness or of not knowing how to ride safely--problems the previous mini-unit addresses. Often dangerous bike riding stems from some other "behavioral" cause such as habit, the desire to take risks, peer pressure, or curiosity. This mini-unit deals with these causes of unsafe bicycling practices, making students aware of them and helping pupils to overcome them. In particular, the unit focuses on the role of peer pressure in promoting dangerous bicycling behavior.

The unit addresses the following concepts related to unsafe bicycling habits:

- Pressure to break bicycle safety rules is a fairly common thing and occurs often within peer groups.
- There are polite and "with-it" ways of refusing peer group pressure to break bicycle safety rules, which might save both embarrassment and trouble later on.
- Sometime there is peer pressure to ride safely, rather than unsafely.

MINI-UNIT 4 LESSON PLAN

Investigating why many people ride dangerously

Activity #	*Activities*	*Class Time*
21	DESCRIPTION: Students discuss why those people who ride unsafely continue to do so even when they know it is very dangerous. GOAL: To be aware of some of the psychological reasons why people do not observe bicycle safety rules.	1 period
22[a]	DESCRIPTION: Students role-play and discuss scenarios in which a person is being pressured to ride unsafely. GOAL: To be able to handle interpersonal situations involving bicycle safety, especially those in which students are encouraged by others to break bicycle safety rules.	1 period
23	DESCRIPTION: Students explore ways to cope with pressures to ride recklessly by responding to hypothetical letters from students and adults in situations of conflict about bicycling. GOAL: To be aware that peer pressures to ride unsafely often occur and to know ways of dealing with such pressures.	1 period
24	DESCRIPTION: Students discuss why people exert pressure on others to ride safely or unsafely. GOAL: To be aware of some of the reasons why people feel the need to exert peer pressure.	½-1½ periods

[a]This activity also appears in Mini-unit 1.

Total Class Time: 3½-4½ periods.

ACTIVITY #21

Mini-unit Topic: Investigating Dangerous Biking **Approximate Class Time:** 1 period

Capsule Activity Description: Students discuss why those people who ride unsafely continue to do so even when they know it is very dangerous.

Goal:

To be aware of some of the psychological reasons why people do not observe bicycle safety rules.

Concepts Treated:

- In many cases, unsafe bicycle riding is not a matter of mere carelessness, but stems from some other "behavioral" cause such as habit or the need to take risks.
- For some people, knowing bicycle safety rules is not sufficient to make them ride carefully, although they might not consciously intend to break these rules.

ACTIVITY

Students write brief (½ page) accounts of things they personally have done or have seen others do in spite of the knowledge that these actions were clearly dangerous. Give one or two examples, such as overweight people eating fatty foods in a restaurant, people smoking, or automobile drivers not wearing seat belts.

During the following class session, students divide into small groups and are given written instructions to

1. Read each other's papers.
2. Go through the actions described, and decide and record *why* these people might have done these dangerous things. Don't simply say "lack of will power" and leave it at that. Explain *why* they don't have the will power. Discuss what *other* reasons besides so-called lack of will power account for their behavior.

3. Decide and record which, if any, of these reasons might explain why some people ride bicycles in unsafe ways.

4. Decide and record if there are any *other* reasons why people might ride unsafely, even when they know they are endangering themselves (e.g., someone is late and in a hurry or trying to gain speed before a hill). Does the lack of enforcement of bicycle safety regulations have a negative influence on bicycling practices?

Groups report results to the class and respond to questions and comments from you and the class.

Evaluation Method:

Students write a brief biography of an unsafe bicycle rider and explain why he or she rides dangerously, even though he or she is aware of the danger. The biography must include details about the rider's personality or life that explain his or her activity.

Variation and Supplementary Activity:

This activity can be a class or small group discussion.

ACTIVITY #22*

Mini-unit Topic: Investigating Dangerous Biking **Approximate Class Time:** 1 period

Capsule Activity Description: Students role-play and discuss scenarios in which a person is being pressured to ride unsafely.*

Goal:

To be able to handle interpersonal situations involving bicycle safety, especially those in which students are encouraged by others to break bicycle safety rules.

Concepts Treated:

- Pressure to break bicycle safety rules is a fairly common phenomenon and occurs often within peer groups.
- There are polite and effective ways of refusing peer group pressure to break bicycle safety rules, which might save both embarrassment and trouble later on.

ACTIVITY

Students role-play parts in scenarios in which someone is being pressured to ride unsafely. Sample role profiles appear on the next pages. Students should be encouraged to develop their own role profiles.

After each role-play, participants read their role profiles to the class and discuss feelings they had while role-playing. Nonparticipants discuss how they might have acted or what they might have said had they been involved. Emphasize the issue of why people, especially young people (10-13 years old), exert peer pressure, as well as ways of resisting such pressure.

Evaluation Methods:

Students write a *Handbook for Safe Bicycle Riders* that discusses how to resist peer pressure to ride unsafely.

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*This activity also appears in Mini-unit 1.

Students write responses to a "Dear Abby" letter inquiring about what to do when the rider is being pressured to ride dangerously.

Sample Role Profiles

Asked for a Ride

Passenger

You are downtown and meet a friend on his bicycle. What luck! You were going to have to walk home or take the bus, but it's a long walk, three miles, and you don't want to spend that 25¢ on a bus ride. Your friend lives only three blocks from your home, so you naturally ask your friend to give you a ride on his bike.

Rider

You just got a new bike a week ago and nearly wrecked it yesterday riding a friend on the handlebars. You feel you ought to be able to control the bike with someone on the handlebars, but in the city traffic it's sometimes very difficult, and you don't want to ruin your bike in another spill. You've just run into a friend and wouldn't you know it, he'll probably ask you for a ride home since he lives only three blocks from you. What will you do if he asks?

Offered a Ride

Rider

Your baseball game is over and you just pitched a one-hitter. You're feeling terrific, as if you could make the majors by the time you're 16. As you get onto your bike to pedal home (about two miles away), you notice that Sam, a friend of yours, is starting to walk to his home. He lives a mile from you. You offer him a ride on your bike thinking, "I'll be able to do him a favor and at the same time it will give me an excuse to see his cute sister when I get him home."

Passenger

Your baseball game is over and you're bushed. You're team won behind the one-hit pitching of Robert, whom you, as a mere second baseman, admire a lot. The thought of walking all the way home (it's three miles) makes you even more tired. But Robert has offered to ride you on the handlebars of his bike. What a thrill! But Robert rides very fast and goes through stop signs and red lights without looking for cars. Your parents have warned you not to ride on handlebars and if you come home injured or scraped up you'll be grounded for a week. But you'll feel like a fool to turn down a ride from the team pitcher. What are you going to do?

At Night

Person being pressured

Your friends are talking about taking a ride this evening down to the park (or movies, or countryside, etc.) but you (Tom) don't like to bicycle at night because of the traffic and because you don't have a light for your bicycle. Most of your friends don't have lights on their bikes either, but that doesn't seem to bother them. You had a couple of close calls with cars last week during the daytime, and you're not about to ride your bike through the traffic at night without lights. The problem is these are your close friends and they're really going to come down on you if you refuse to join them. What will you say?

Person pressuring the friend

You (John) and your friends feel it would be a lot of fun to bicycle down to the park (or movies, or countryside, etc.) this evening. You're at Tom's house right now. You know all the other kids will go along with the idea, but Tom might not. He seems to be careful about the things he does--like riding a bike at night. He doesn't know how to live and enjoy life. So if he says he won't go with you, you're going to *make* him go--it's time he stopped being so chicken and started acting like an adult. So you suggest, "Say, let's bike down to the park this evening and have ourselves some fun!"

Another person pressuring the friend

You (Bill) are bored again, wondering what you'll do this evening. You're just waiting for someone in the group to come up with an exciting idea. You know Tom won't come up with one--he never suggests doing anything interesting. He always comes along, though, but sometimes he complains that you and the others are crazy--that you do foolish things. If you do think of something to do, you hope Tom doesn't throw a wet blanket on the idea and spoil it for the rest of you.

Busy Street

Person being pressured

Your parents have told you (Barbara) that you are not to bicycle along Main Street under any condition. If they catch you doing it, they'll take your bike away for a week. They say there's too much traffic on Main Street and it's no place for you to be. The trouble is, the only way to get to the park is down Main Street. Otherwise, you have to go three miles out of the way on a bunch of side streets, and by the time you do that, you'll have to turn right around and come home for dinner. Susan is with you right now riding home from school and you just know she's going to ask you to ride with her down to the park, along Main Street.

Person pressuring the friend

You are walking home with Barbara, your best friend, after school. You've just come up with a great idea. If you bicycle quickly down to the park you'll be able to watch the end of the Little League game. But you'll have to hurry. The quickest way to get there is down Main Street. There's always a lot of traffic on Main Street, but if you ride carefully you won't have any trouble. So you say to Barbara, "Let's bike down to the park and see the rest of the Little League game. If we hurry we can make it."

New profiles can be created by varying the relationships among the actors, the unsafe practices of the rider, why the passenger needs the ride and/or is afraid of accepting the ride, and why the rider is afraid of offering the ride.

ACTIVITY #23

Mini-unit Topic: Investigating Dangerous Biking

Approximate Class Time: 1 period

Capsule Activity Description: Students explore ways to cope with pressures to ride recklessly by responding to hypothetical letters from students and adults in situations of conflict about bicycling.

Goal:

To be aware that peer pressures to ride unsafely often occur and to know ways of dealing with such pressures.

Concepts Treated:

- Peer pressure to ride unsafely arises on many different occasions and for many different reasons.
- There are ways of refusing to do what one knows is unsafe, while still not looking like a fink or a wet blanket to one's peers.

ACTIVITY

Students explore ways of coping with pressures to ride unsafely by responding to hypothetical letters from people of various ages who are faced with such pressures.

Students break into small groups and each group is given the letters that appear on the following page. Groups are instructed to act as a consultant bureau. Each bureau must answer each letter with a letter of advice. If they disagree among themselves they may include more than one approach in their letter but they should write only *one* letter to the advice seeker. When all letters have been answered, the various bureaus exchange letters until each group of students has read the responses of several other groups.

Have the class compare the various types of advice given by asking each bureau to explain why it advised a particular course of action and having other bureaus evaluate how effective they think that course of action would be and why.

Evaluation Method:

Each student writes a hypothetical letter about a peer problem he or she is encountering. Students exchange letters, and each student responds to one other student's letter.

Variations and Supplementary Activities:

Students can respond individually to the hypothetical letters provided below and on the following page, and then compare their responses.

Students can role-play, calling problems illustrated by the letters into a hot line.

Students can send a "Dear Abby" letter to a local newspaper, and evaluate the response.

Dear Abby:

I have banged up my bicycle twice carrying other kids on my handlebars, once so badly my parents had to get me a new bike. They've told me if I wreck it again, they won't get me another one. But my friends will think I'm a fink if I don't give them rides. What can I do?

Sincerely,

Torn

Dear Abby:

My husband and I go riding in the country weekends and enjoy it a lot, but he insists on riding on the wrong side of the street because he likes to see the traffic coming at him--he says it's safer. I think it's much more dangerous, but I don't enjoy riding on one side of the street while he's on the other. That's no fun, and it's even more dangerous to have our bikes on *both* sides of the street. What should I do?

Sincerely,

Uncertain

Dear Abby:

My friends all ride around the city at night on their bikes, and I hate to do this because my brother got a broken leg that he still

limps on from a bicycle accident at night last year. My bike and my friends' don't have lights on them, and I can't afford to buy a light; it would get stolen right away anyway. I don't want to be left out of the action with my friends, but I'm afraid of getting crippled. I've already had two close calls with cars. What should I do?

Sincerely,

Afraid

ACTIVITY #24

Mini-unit Topic: Investigating Dangerous Biking **Approximate Class Time:** ½-1½ periods

Capsule Activity Description: Students discuss why people exert pressure on others to ride safely or unsafely.

Goal:

To be aware of some of the reasons why people feel the need to exert peer pressure.

Concepts Treated:

- Peer pressure is exerted for different reasons, at different times, by different people; some people make a habit of forcing others to do things and some people do it only when they feel it is justified.
- Sometimes there is peer pressure to ride safely, rather than unsafely.

ACTIVITY

Students write a brief (½ page) response to the following instructions: Describe two times you have tried to pressure a friend to do something. What did you do to pressure him? Were you with other friends? Why did you want him to do what you were pressuring him to do?

During the following class period, students break into small groups and are given written instructions to

1. Read each other's papers.
2. Discuss and record, for each situation, why the pressure is being exerted.
3. Make a chart and list all the reasons why someone might pressure someone else to ride safely or to ride unsafely.
4. Discuss and record which, if any, of these reasons justify exerting pressure and which do not.

5. Discuss and record whether and how individuals who exert unjustifiable pressure can be discouraged from doing so and resisted.

Groups report conclusions to class and respond to questions and comments from class and teacher.

Evaluation Method:

Students role-play scenarios involving peer pressure.

Variation and Supplementary Activity:

This activity can be a class or small group discussion.

MINI-UNIT 5

CONSIDERING HOW TO ENCOURAGE OTHER PEOPLE TO RIDE SAFELY

This last of the three mini-units that focus primarily on bicycling safety is designed to motivate students to discourage *other* people from unsafe bicycling practices. This unit also provides suggestions for how students can do so without seeming to act like killjoys. One approach the unit takes to achieve these goals is to place the students in the role of parents deciding what bicycle safety rules they (the students) would set for their own children. In this manner, pupils are stimulated to recognize that many of the bicycle safety rules established by parents and society have a sensible foundation in the protection of riders against injury and death.

MINI-UNIT 5 LESSON PLAN

Considering how to encourage other people to ride safely

Activity #	*Activities*	*Class Time*
25	DESCRIPTION: Students discuss what restrictions they would set for their children on riding bicycles. GOAL: To be aware of the viability of both one's own and one's parents' feelings about bicycle safety.	1 period
26	DESCRIPTION: Students evaluate how to cope with an unsafe bike rider in the family. GOAL: To be aware that bicycle safety "questions" can have two legitimate sides, the parents' and the child's.	1½-2 periods
27	DESCRIPTION: Students role-play a situation in which a friend is about to ride his bicycle dangerously. GOAL: To be aware that it is one's responsibility, as a friend, to tell another person when he or she is bicycling unsafely.	1 period

Total Class Time: 3½-4 periods.

ACTIVITY #25

Mini-unit Topic: Confronting Dangerous Bicycle Riders

Approximate Class Time: 1 period

Capsule Activity Description: Students discuss what restrictions they would set for their children on riding bicycles.

Goal:

To be aware of the viability of both one's own and one's parents' feelings about bicycle safety.

Concepts Treated:

- There are sometimes good reasons for what at first seems to be over-strictness on a parent's part concerning bicycle safety rules.
- Parents and children should sit down together and reasonably discuss the pros and cons of each bicycle rule that the parents set down.

ACTIVITY

Prior to this class, students are given a sheet instructing them to set rules for a son or daughter regarding bicycle safety. A sample discussion sheet is provided on the following page.

Students break into small groups and are given written instructions to

1. Read each other's papers.
2. Discuss and record the best rule and punishment for each safety problem.
3. If different rules or punishments were set for the son and daughter, justify these.

The groups report their results to the class, and respond to comments and questions from you and the class. Class discussion should include why safety rules should be set and how these rules should be explained to and discussed with children.

You are the parent of a _____-year-old (insert the appropriate age) son or daughter. What rules, if any, regarding their use of their bicycles will you set? You may want to consider

Safety Issue	*Son*	*Daughter*	*Penalty for Disobeying*
Riding at night without lights			
Riding sidesaddle			
Riding on busy streets			
Riding far from home			
Riding in the rain			
Fooling around--jumping the front wheel, etc.			
Riding in the middle of the street			
Riding no hands			
Riding through red lights			
Speeding			
Other (specify)			

Evaluation Methods:

Students invite younger students to their class or small group and defend their own rules.

Students write the dialogue to scenarios in which a son or daughter "argues" over bicycle rules with his or her parents.

Variations and Supplementary Activities:

This activity can be a class discussion or a written homework assignment.

Members of the class can role-play parents and defend their rules. Students can use sample role profiles provided at the end of the activity or develop ones of their own.

Sample Role Profiles

At Night Without Lights

Parent

You do not allow your son to ride his bicycle after dark because there is no light on the bike. You haven't bought a light for the bike because you've been using it as an excuse for not letting him ride at night. You feel night riding is dangerous even *with* lights. Your neighbor has just called up to tell you that he caught *his* son riding in town without lights along with *your* son who was using a friend's bicycle that also had no lights. You're angry as your son walks into the house from his ride. What do you say?

Son or daughter

Your father (mother) won't let you ride your bicycle at night because it doesn't have a light on it. All your friends ride their bikes at night without lights and you can't see why you can't. It's not dangerous if you're careful, and none of your friends have been in an accident. Tonight a friend of yours suggested you ride to the Dairy Queen (movies, park, etc.) using his friend's bike. You agreed even though the bike had no lights because you would be laughed at if you refused. After the ice cream (movie, etc.) you left the bike off at your friend's house and walked home. You've just come in the house and you can see already that your father (mother) is mad about something.

Stolen Bicycle/Riding on Handlebars

Parent

You haven't been able to afford another bicycle for your daughter ever since her other one was stolen last month. What upsets you is that she has been riding around on the handlebars or sidesaddle of other kids' bikes; it's very unsafe, particularly with all the traffic around your neighborhood. But you understand that it's hard for your daughter not to ride sidesaddle because she won't be able to play with her friends if she doesn't. But you feel she will just have to wait until you can afford another bike. Today you drove downtown on an errand and saw your daughter riding on the handlebars of a friend's bike. Now it is evening and she has just come home for dinner. She has disobeyed you and put herself in danger. What do you say?

Daughter or son

Your bike was stolen a month ago and your parents say they can't afford to buy you another one yet. This makes it very hard for you to play with your friends because they all have bikes, and anytime they go somewhere the only way you can join in is to ride on someone's handlebars. But your parents have told you you are not allowed to do this--it's too dangerous, they say. This afternoon all your friends rode down to the movies (park, Dairy Queen, etc.) and you didn't want to be left out so you rode on Suzie's handlebars. Now you've just come home to dinner and you can see your parents (father)(mother) are upset about something. Did someone see you riding Suzie's handlebars?

ACTIVITY #26

Mini-unit Topic: Confronting Dangerous Bicycle Riders

Approximate Class Time: 1½-2 periods

Capsule Activity Description: Students evaluate how to cope with an unsafe bike rider in the family.

Goal:

To be aware that bicycle safety "questions" can have two legitimate sides, the parents' and the child's.

Concepts Treated:

- In many cases, children feel they have legitimate reasons for breaking the bicycle safety rules their parents have set down, while parents might feel that these rules are reasonable and based on a concern for their children's safety.
- Children and parents should sit down together and discuss their objections to, or support of, bicycle safety rules that the parents have set down.

ACTIVITY

Students role-play scenarios in which one or more "members of the family" ride a bicycle. The scenarios involve safety issues that require resolution. Sample role profiles appear at the end of this activity, but the students should be encouraged to create their own role profiles.

After each role-play, nonparticipants suggest what they would have said and done had they been participants. Participants discuss the feelings they had while role playing.

After the role-plays, list on the blackboard the ways students responded to each scenario. Then hold a class discussion on the response which you and the students feel is most constructive for dealing with people who don't ride safely.

During the following class, reread the scenarios and ask students to play "Dear Abby" in responding to someone writing a letter about each of the family bicycle problems involved.

The students break into small groups and select the letter written by one of their members that they feel is the best response to the scenario. The groups read the selected letters to the class and respond to comments and questions from you and the students. The class then selects one letter and sends it to a local traffic officer to compare their response with the answer from the traffic officer.

Evaluation Methods:

Students write a *Manual on How to Cope with a Bicycle Safety Problem in the Family.*

Students role-play or write the dialogue to a scenario in which a social worker is consulted by one of the family members of the scenarios.

Variations and Supplementary Activities:

New role profiles can be created by varying the age and sex of the riders, the unsafe activities they engage in, the availability of other forms of transportation, etc.

Students can role-play a hot line in which family members call in problems about bicycle safety.

You and your students can invite a local traffic officer to class to comment on and evaluate the role plays.

Sample Role Profiles

Sons and Daughters

Parent

You have two children, an 11-year-old son and a 13-year-old daughter. Both have bicycles. You let your son ride his at night because he's a boy and you feel he can take care of himself and can handle the bike pretty well. You feel your daughter, however, is liable to get hurt either by someone who might try to steal her bike or because she won't be able to handle the bike well and get into an accident. But now you're all at the dinner table and your daughter is looking at you angrily.

Daughter

You are 13 years old and your younger brother is 11. Your parents let him ride on his bike at night, but they won't let you even though you're two years older. You feel this is unfair. Two of your girlfriends have invited you to go to a friend's house a mile away to watch television, but they're going by bicycle and you want to also. You are at the dinner table and ready to tell your parents to let you take your bike. What do you say?

Son

You are 11 years old and your older sister is 13. Your parents let you ride your bicycle at night because they know you can take care of yourself and can handle your bike well. You've never had an accident with it. Your parents won't let your sister ride her bike at night, but this makes sense to you because she can't handle her bike as well as you can. Besides, someone might come along and steal it away from her, and she wouldn't be able to stop them. You're at the dinner table enjoying a good roast beef

Unsafe Riding

Son or daughter

You are eight years old and love to ride your new bike. But your parents keep telling you to be careful and not ride in the street or too fast. You can't see what the problem is; there aren't many cars where you ride and you always see them and can avoid them. Today, however, you bumped into a friend who was riding his (her) bicycle and fell over, scraping your leg. Your parents have just washed the scrape and put a bandage on it, and you just know they're going to say something about not riding your bike carefully.

Parent

Your eight-year-old son (daughter) loves his (her) bicycle but rides it very dangerously--doesn't look where he (she) is going, rides into the street from behind parked cars, speeds along, doesn't watch out for cars, and in general doesn't pay attention to what he (she) is doing on the bike because he (she) is having too much fun on it. Just this afternoon, he (she) wasn't looking where he (she) was going and ran into a friend on another bike, fell off, and scraped his (her) leg. You've just washed the scrape and bandaged it, and are ready to do something about the way your son (daughter) rides his (her) bike. What do you say or do?

Parent

Your 12-year-old son (daughter) keeps riding his (her) bicycle dangerously. He (she) rides too fast and does tricks with it, like making the front wheel jump or riding along fast and stopping suddenly by twisting the bike sharply and making it skid to a stop the way ice skaters do. On the way home from work, you saw him (her) doing it again on a side street off the street you live on. You think all this is very dangerous. You son (daughter) has just come home and you're ready to punish him (her). What do you say?

Son or daughter

You love to have fun on your bicycle with your friends, like making the front wheel jump up or racing along and stopping suddenly by turning your bike sideways and having it skid to a stop the way ice skaters stop. Your parents have told you not to do this, but you don't think it's dangerous and besides, it's a lot of fun. In fact, you were doing it just this afternoon, but you know your father (mother) spotted you on his (her) way home from work. Now you're coming in for dinner and you can see by the look in his (her) eyes, you father (mother) is really mad.

ACTIVITY #27

Mini-unit Topic: Confronting Dangerous Bicycle Riders

Approximate Class Time: 1 period

Capsule Activity Description: Students role-play a situation in which a friend is about to ride his bicycle dangerously.

Goal:

To be aware that it is one's responsibility, as a friend, to tell another person when she or he is bicycling unsafely.

Concepts Treated:

- No matter how much a person admires a friend for various reasons, he or she must still be able to recognize situations in which that friend is riding unsafely.
- When someone tells a friend that he or she is riding unsafely, an unpleasant confrontation might occur.
- It is one's responsibility, as a friend, to tell another person when he or she is riding unsafely, but this can be done in different pleasant and unpleasant ways.

ACTIVITY

Students role-play confrontations between friends, one of whom is about to ride his (or her) bicycle dangerously. Sample role profiles are provided at the end of this activity.

At the end of each role play, participants read their role profiles to the class and discuss the feelings they experienced while acting. Other students discuss how they might have responded to the situation. You should add your own comments.

Evaluation Method:

Students create a situation in story form in which a person who is about to ride dangerously is confronted by a friend. However, the students do not conclude the story but rather stop at the point where the friend has the opportunity to intervene. Students then exchange

stories and write two endings to another student's story, describing how it would *probably* end and how it *should* end.

Variations and Supplementary Activities:

This activity can be carried on as a class or small group discussion.

New role profiles can be created by varying the relationships among the actors: the unsafe practices the rider engages in; why the friend wants the rider to ride safely; and why the unsafe rider rides dangerously.

Sample Role Profiles

Friend

Your best friend, who is also the star basketball player on your junior high school (YMCA, etc.) team, rides home from practice every day (week, every other day, etc.) at breakneck speed, with no regard for traffic lights or stop signs. He rides on the wrong side of the road and pays little attention to where he's going. You're concerned about him because he's your close friend and also because if he gets injured your team will never win the championship. Today's practice is over and you've decided to talk to him about his dangerous bicycle habits. You walk over to his locker where he's changing. What do you say?

Rider

You are the star of the junior high school (YMCA) basketball team and expect the team will win the championship this season behind your leadership. Your other passion is bicycling. You have a ten-speed bicycle that you love to race, even though you know at times you are reckless on it. But you know how to handle a bike with great skill and can take care of any emergency that might arise as you ride. You're changing now in the dressing room, and your best friend and teammate comes over to chat.

Friend

Your best friend, Jose, is always riding his bicycle in dangerous ways, like riding on the wrong side of the street, racing through intersections, red lights, and stop signs, and weaving in between cars. You are both part of a group of kids, and at times all of you are a bit reckless, but Jose is *always* reckless. The only way you kids can keep up with him is to ride the same reckless way. What bothers you is that you've nearly been in an accident twice and not only are you scared of getting hurt, your parents won't buy you another bicycle if you wreck this one. Then you won't be able to play with Jose at all! Jose has just come over to pick you up for an afternoon of biking, but you've decided to talk to him first about his reckless bicycling habits. What do you say?

Rider

Every weekend and often after school you and your friend, Harvey, go bike riding. You are sort of the leader of the group and you have your reputation to protect as the most daring rider of the group. You know the other kids respect you for this and you like being leader. Besides, you can handle your bicycle better than they can--better than anyone in the neighborhood. You've just biked over to Harvey's to pick him up for today's excitement.

Friend

Your friend Marcia drives her bicycle at night without any light on it. There is a small reflector on her rear bumper, but you know this isn't enough. Most automobile drivers either can't see it or might hit her by the time they do. This has bothered you for some time now, and you've decided to talk to her about it. You're in a local sandwich shop (spa, Dairy Queen, etc.) together having lunch (ice cream, etc.). What do you say?

Rider

You and your friend, Lorrie, are in the local sandwich shop (spa, etc.) having lunch (ice cream, etc.). Lorrie is a careful sensible person who doesn't do reckless things or take too many chances. You feel she misses out a lot in life by being so careful. Just looking at her right now you can tell she's going to warn you about something, like riding your bike at night with only a reflector or riding on the wrong side of the street.

MINI-UNIT 6

STUDYING HOW TO BUY A BICYCLE

This mini-unit provides students with information about what kind of bicycle to buy for their purposes, what size and model to purchase for their height, and how to ensure that they buy a bicycle that is economical and reliable. In addition, the unit stresses that bicycle purchasers should have safety as well as economic, esthetic and comfort considerations in mind as they decide what kind of bicycle to purchase.

However, knowing *what* to look for in a bicycle does not always ensure that the proper purchase is made. Emotional factors also play a part in influencing the interpersonal dynamics between customers and salespersons. The unit therefore also addresses such issues as customer embarrassment at examining "the goods" carefully before buying and coping strategies to use with high-powered salespersons who may pressure customers to purchase models or accessories they would prefer not to buy. This particular consumer skill is a valuable one that students can carry over to the purchase of all consumer products.

Other key concepts this unit addresses are the following:

- The buyer should be sure that the store from which he buys is reputable and will give him good service in the future.
- Potential purchasers of expensive items such as bicycles are fully justified in being very careful about the product they buy.
- There are certain polite ways in which to ask questions about bicycle characteristics or defects and in which to handle difficult salespersons.
- Salespersons can often be extremely helpful when the person trying to buy a bicycle does not know what features he wants or what model would be best for him.

While safety considerations--and the three units which address them--are important follow-up issues to treat after this mini-unit (if they have not already been taught), Mini-unit 7 which follows ("Learning to Maintain a Bicycle") is also an appropriate unit with which to follow this one.

MINI-UNIT 6 LESSON PLAN

Studying how to buy a bicycle

Activity #	*Activities*	*Class Time*
28[a] Spirit Master #4	DESCRIPTION: Students discuss what bicycle characteristics purchasers should consider when deciding which bike to buy. GOAL: To know what factors should be taken into consideration in buying a bike, including the type of use to which the bike will be put, the most desirable style, and the price.	½-1 period
29	DESCRIPTION: Students discuss embarrassment at carefully examining a bicycle for defects and characteristics before purchasing it. GOAL: To be able to cope effectively with feelings of self-consciousness that may result from being a cautious shopper.	½-1 period
30	DESCRIPTION: Students role-play scenarios involving bicycle purchasers and salespeople. GOAL: To know how to deal effectively with salespeople when buying a bike.	1 period

Total Class Time: 2-3 periods.

[a]This activity also appears in Mini-unit 1.

ACTIVITY #28*

Mini-unit Topic: Buying a Bicycle

Approximate Class Time: ½-1 period

Capsule Activity Description: Students discuss what bicycle characteristics purchasers should consider when deciding which bike to buy.*

Goal:

To know what factors should be taken into consideration in buying a bike, including the type of use to which the bike will be put, the most desirable style, and the price.

Concepts Treated:

- There are many questions that a person should ask him- or herself before buying a bike, including what he or she will use it for, how much he or she has to pay, what kind of accessories are needed, and what style of bike is most comfortable and reliable.
- The buyer should be sure that the store from which he buys is reputable and will give him good service in the future.
- The final step in bike buying involves a careful check of the bike that is actually selected, including a test ride.

ACTIVITY

Students write responses to the following letter:

Dear Consumer Advisor:

I am 14 years old and want to buy a bicycle. I have outgrown my old one, but I don't know what kind of new one to get. I plan to use it to bike to school, three miles away, up a steep hill. I also want to

*This activity also appears in Mini-unit 1.

use it to play with my friends. My parents will give me $65 for it and I have $50 saved in the bank. What kind of bike should I get? How many gears? High-rise, racing, conventional? Racing handlebars or regular handlebars? What brand? How much should I pay?

Sincerely,
Helpless

The following class period, students break into small groups and are given written instructions to

- Discuss whether they disagreed on the type of bike Helpless should buy and, if so, why
- Agree on what kind of bike she should buy and why
- Decide, in general, how someone should go about assessing what kind of bike he or she should buy--what factors need to be taken into consideration, such as whether the purchaser plans to bike up steep hills, wants a rugged bike for dirt roads, will be exposing an expensive bike to theft risks, wants minimum upkeep costs, etc.

Groups report their conclusions to the class and respond to comments and questions from the class. Compile a list on the blackboard of purchase criteria the groups have come up with and try to gain a class consensus on what they should be--such as plans to bike up hills, plans to ride long distances, etc. You can also use the purchase consideration chart (Spirit Master #4) to summarize purchase criteria.

The following lists include steps in determining what kind of bike to buy, deciding where to buy the bike, and actually buying the bike. You might bring some of these up if the class fails to mention them.

1. Decide what the bike will be used for--short trips, long trips, commuting, recreation, up hills, over rough terrain, racing, touring, etc.
2. Decide how long the bike will be owned. This is a consideration in particular with bicycles for small children.
3. Select the brand of bicycle. It is useful to compare the repair records of various bike brands and models.
4. Choose a style--racing, banana seat, conservative, etc.
5. Determine the number of speeds or gears--1, 3, 5, or 10--and how gear ratios influence hill climbing capabilities.
6. Select handlebars--racing, conventional, or high-rise.
7. Select a price range--$50 to $100, $100 to $200, over $200.
8. Select the proper size.

9. Determine the availability of replacement parts and services.

Three steps are involved in deciding *where* to buy a bike:

1. Compare bike prices in different stores, including any assembly charges.

2. Determine stores' reputations for selling quality products and for making competent repairs.

3. Consider whether the bike should be bought from a store that can and will repair it competently and promptly.

The steps involved in actually buying a bike include

1. Examine the tires--are they sew-ups or clinchers? Are they in good condition? (Clinchers are the most common and durable and the easiest to repair.)

2. Select the right size of bicycle.

3. Test-ride the bicycle.

4. Check the frame for defects and type of construction--welded or brazed. (On better bikes, frames are usually brazed. Welding, which is done at high temperatures, robs metal of its strength.)

5. Examine the warranty.

Selecting accessories can be discussed in terms of why they are desired or needed--for safety, convenience, or aesthetic reasons. Examples of accessories include lights (generator or lamp; on the bicycle, worn on the rider, or both); locks; saddle bags, baskets, and book racks; tire pumps; tire pressure gauges; water bottles; gloves; kickstands; toe clips and pant-cuff clips; chain shields that prevent trousers from getting caught in chains; child seats; tire-repair kits; cloth handlebar tape; car racks for transporting bikes; and bicycle safety flags for increased visibility.

Evaluation Method:

Students write their own letters to a consumer advisor, describing someone who plans to buy a bike. Students then exchange letters and each student responds to one other student's letter in terms of what kind of bike he or she should buy.

Variations and Supplementary Activities:

Students can interview parents and other bicycle purchasers on how they decided what kind of bicycle to buy.

Students can interview bicycle salespeople as to what kinds of bikes most customers buy and why.

Students can discuss and read about accessories they should or might want to buy.

Class can discuss how the sequence of tasks to follow in determining which bicycle to buy and buying one can be varied from the sequence offered in this activity.

Discussion can focus on what to examine in buying a used bicycle, such as condition of the frame, how well the gears work, presence of rust, tire condition, and number of accessories included.

Students can fill in a copy of the purchase considerations chart on Spirit Master #4 for their ideal bike and then discuss their selection criteria.

ACTIVITY #29

Mini-unit Topic: Buying a Bicycle

Approximate Class Time: ½-1 period

Capsule Activity Description: Students discuss embarrassment at carefully examining a bicycle for defects and characteristics before purchasing it.

Goal:

To be able to cope effectively with feelings of self-consciousness that may result from being a cautious shopper.

Concepts Treated:

- Potential purchasers of expensive items such as bicycles are fully justified in being very careful about the product they buy.
- Salespeople can sometimes be less than helpful when a young person is attempting to make an important purchase, and sometimes may even be troublesome.
- There are certain polite ways in which to ask questions about product characteristics or defects and in which to handle difficult salespeople.

ACTIVITY

Students write a brief description of any experience in which they intended to purchase a product but felt embarrassed or nervous about examining it carefully before buying. Students include in their account

- Whether they did examine it, and how carefully
- How the salesperson responded (with anger, annoyance, consideration, additional information; refusal to serve the customer), and why
- Whether they found any defects or unwanted or missing part
- What they did about any defects or unwanted or missing part
- Whether they purchased the product and why or why not

Students then break into small groups and are given written instructions to discuss

1. All the *reasons they were embarrassed* or nervous, such as concern about the salesperson getting angry; their revealing ignorance about the quality of the product, about what they wanted in the product, or about whether they really wanted to buy the product; other people waiting for service who were angry at the delay, or other influences that customers may have on a potential buyer; their need for the product, regardless of defects (e.g., because of the shortage of available bicycles); and not knowing what to do if a defect or missing part was discovered

2. Methods customers can use to *avoid feeling embarrassed* in such situations, or to be motivated to examine products carefully despite their embarrassment, such as knowing in advance exactly what to examine in a bicycle before buying; knowing exactly what kind of bike one wants to buy; planning in advance what to do if a defect is found, unwanted parts are present, or a desired part is missing (such as demanding a discount, a new product, or that the defect be repaired or the missing item included); and identifying methods by which to exert influence over salespeople (such as asking for the supervisor, or indicating that you might shop at a competitor's store, or that you might write to the manufacturer or distributor).

The groups report their conclusions to the class and respond to questions and comments from you and the class.

Evaluation Method:

Students test their learning in subsequent purchasing situations (not necessarily related to bicycles) and report their results to the class.

Variations and Supplementary Activities:

Students can role-play scenarios in which they ask questions about bicycles before buying.

This activity can be held as a class discussion.

Students can research the recommendations of consumer protection groups on how to examine bicycles before buying.

ACTIVITY #30

Mini-unit Topic: Buying a Bicycle

Approximate Class Time: 1 period

Capsule Activity Description: Students role-play scenarios involving bicycle purchasers and salespeople.

Goal:

To know how to deal effectively with salespeople when buying a bike.

Concepts Treated:

- Salespeople can often be extremely helpful when the person trying to buy a bicycle does not know what features he wants or what model would be best for him.
- In cases in which the purchaser knows the type of bike he desires and has thoroughly researched his needs in a bicycle, he should not allow himself to be intimidated by a salesperson who appears to be knowledgeable.
- There are polite and effective ways of dealing with salespeople.

ACTIVITY

Students role-play scenarios involving consumers buying bicycles from salespeople. Sample role profiles are provided on the following pages. After each role-play, participants read their role profiles to the class and discuss the feelings they had while role-playing; in particular, "salespeople" discuss their emotional reactions to different approaches on the part of the "customers" in terms of which approaches are most likely to result in salespeople being most helpful to the customer. Nonparticipants discuss what they would have said and done had they been involved. The class should be encouraged to write its own role profiles.

After completion of the role plays, the class discusses different approaches and responses used by purchasers and salespeople and which of these seemed to be most effective.

Evaluation Method:

Students compose the dialogue to one or more scenarios, writing the parts of both the customer and the salesperson.

Variation and Supplementary Activity:

This activity can be held as a class or small group discussion.

SAMPLE ROLE PROFILES

Buying Yourself a Bicycle

Purchaser

You want to buy a bicycle but you don't know whether to get a one-, three-, or ten-speed or how much money to pay. You plan to use your bike for weekend trips of 5 to 15 miles, but that's about it. There's a small chance you might use it some days to commute to work, but that's not likely. You have come for advice to the Best Buy Bicycle Shop. You enter and go up to a salesperson. What do you say?

Salesperson

You work in the Best Buy Bicycle Shop. You sell all kinds of bikes. You want two things: lots of sales, preferably of expensive bikes, and satisfied customers. Sometimes you have to decide whether you want a satisfied customer buying a less expensive bike or an unhappy customer buying a more expensive one. A customer who looks very uncertain has just approached you. How will you handle his (her) questions?

Parent and Son (or Daughter)

Purchaser

You want to buy a new bicycle for your eleven-year old son (daughter). He has outgrown his old bike and wants you to get him a fancy high-rise bike with a banana seat and stick shift. You think they're unsafe, too expensive, and don't last too long. Besides, your son will try to do all kinds of unsafe tricks and games on a high-rise. You want to get him a three-speed English bike that you feel is safer. You have decided to ask a salesperson for advice, taking your son with you. You both have just walked into the Swell Sales Bicycle Store and gone up to the salesperson. What do you say?

Son (daughter)

You have outgrown your old bike and want your father (mother) to buy you a new, fancy high-rise bike with a banana seat and stick shift. That's the kind of bike all your friends have, and you like the looks of it. It makes you feel like you're riding a motorcycle--in fact, as soon as you're old enough and have the money, that's what you plan to buy. Your father doesn't like the high-rise bikes because he thinks they're poorly made and unsafe. You think they're as safe as any other bike. And besides, you really can't do as many tricks on an English bike as you can on a high-rise--although you can't tell your father (mother) that! You've come with your father shopping for a bike. You've both just entered the Swell Sales Bicycle Store and walked up to a salesperson. What do you say?

Salesperson

You are a salesperson in the Swell Sales Bicycle Shop. You are an expert in children's bikes. It's so much fun when a parent and child come in looking for a bike and argue over what kind to buy. Usually, the kid wants the more expensive bike. But you have to watch yourself. If you side with the kid, the parent may get angry with you and buy the bike somewhere else. A parent and child are coming over to you right now. You wonder what kind of disagreement they'll have!

How Expensive?

Purchaser

You have decided to buy a medium-priced three-speed bike, for around $75. You want it to run errands and make short trips, nothing special. You walk into Rodney's Rugged Bike Shop to buy a Modesto Model 99Z. You walk up to the salesperson. What do you say?

Salesperson

You are a salesperson in Rodney's Rugged Bike Shop. You get a commission on every bike you sell--and the more expensive the bike, the larger your commission. In addition, you are tired of seeing customers buy what you feel are cheap, clumsy bikes when they could buy a decent ten-speed for $125 or $175 and have a bike that will last and give a comfortable ride. Yet customers keep coming in asking for bikes like the three-speed Modesto 99Z, which sells for $70 when for only $50 more they could buy a ten-speed bike like the Superba XKG. A customer has just come in the store and comes up to you. How will you handle him if he too wants a bike like the Modesto 99Z?

Accessories

Purchaser

You want to buy a light for your three-speed bicycle because you've realized how unsafe it is riding at night without one. But you have no idea what kind of light to get--expensive or cheap, generator kind or battery powered, with reflectors or without, etc. You've just walked into Aaron's Accessories Shop and over to a salesperson. What do you say?

Salesperson

You work in Aaron's Accessories Shop and sell bicycle accessories like saddle bags and lights. You carry a complete line of items from cheap to expensive. Often customers come in and don't know what kind of accessory to get. You try to help them make a wise decision. Here comes a customer right now who looks as though he (she) needs some advice.

MINI-UNIT 7

LEARNING TO MAINTAIN A BICYCLE

Many people neglect to maintain their bicycles in top operating condition. Others would like to keep their bicycles in good shape but feel ignorant about how to do so or imagine the work required is too time consuming, complicated, or messy. This mini-unit is directed at all these individuals and will help them realize the importance of maintaining their bicycles and of how to do so efficiently and easily.

The unit stresses not only that proper bicycle maintenance is necessary to provide maximum riding comfort and to preserve the life of the vehicle but also that maintenance is critical to ensuring bicycling safety. Loose brakes, for example, can be as great a riding hazard as speeding.

This mini-unit also addresses the following important concepts:

- Knowledge about what the different parts of the bicycle are, where they fit on the bicycle, and what their purpose is is essential to the person who needs or wants to regularly maintain his bicycle.
- Certain bicycle malfunctions are closely or directly related to lack of proper maintenance.

MINI-UNIT 7 LESSON PLAN

Learning to maintain a bicycle

Activity #	*Activities*	*Class Time*
31[a] Spirit Masters #5 and #6	DESCRIPTION: Students play a card game that requires them to identify the parts of a bicycle. GOAL: To know the various parts of a bicycle and where those parts belong on the bicycle.	½-1 period
32[a]	DESCRIPTION: Class discusses maintaining a bicycle. GOAL: To be aware of the types of owner activities which are important for bicycle maintenance, and the procedures for performing these tasks.	½-1 period
33	DESCRIPTION: Students interview bike riders on common bicycle malfunctions they have experienced and what kind of maintenance they perform on their bikes to prevent breakdowns. GOAL: To know why bicycle maintenance is necessary to prevent certain types of bicycle malfunctions.	2-4 periods, plus out-of-class time
34 Spirit Master #8	DESCRIPTION: Students perform basic maintenance tasks on a bicycle in class. GOAL: To be able to perform various bicycle maintenance tasks that they can then perform on their own bikes.	1 period, plus out-of-class time

[a]This activity also appears in Mini-unit 1.

Total Class Time: 4-7 periods.

ACTIVITY #31*

Mini-unit Topic: Maintaining a Bicycle

Approximate Class Time: ½-1 period

Capsule Activity Description: Students play a card game that requires them to identify the parts of a bicycle.*

Goal:

To know the various parts of a bicycle and where those parts belong on the bicycle.

Concept Treated:

- Knowledge about the different parts of the bicycle and their purposes is essential to the person who needs or wants to maintain a bicycle.

ACTIVITY

Using a real bicycle or the diagram on Spirit Master #6, students identify the parts of a bicycle and describe their purpose.

Students play a card game that requires them to identify the parts of a typical bicycle. Class breaks into small groups of no more than four students. Each player is given a duplicated copy of the instructions and the bicycle diagram on Spirit Masters #5 and #6 and a copy of the pages of cards that are found in Activity #7. Each group cuts out the cards and pastes them onto cardboard or 3 x 5 cards for durability.

If students are interested in making more detailed repairs or in carrying on more intricate maintenance, they can create cards for more esoteric parts (e.g., jockey roller, cotter bolt) and either revise the bicycle diagram to accommodate these parts or develop an entirely new diagram.

Evaluation Method:

Game is self-evaluating.

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*This activity also appears in Mini-unit 1.

ACTIVITY #32*

Mini-unit Topic: Maintaining a Bicycle

Approximate Class Time: ½-1 period

Capsule Activity Description: Class discusses maintaining a bicycle.*

Goal:

To be aware of the types of owner activities which are important for bicycle maintenance, and the procedures for performing these tasks.

Concepts Treated:

- Regular bicycle maintenance is important for safe and enjoyable bike riding.
- Once the various tasks leading to safe bicycle maintenance have been learned, they are easy and not too time-consuming to perform on a regular basis.

ACTIVITY

Hold a class discussion on basic maintenance tasks which bicycle owners can and should perform. Such tasks include

- *Tire care,* including maintaining proper tire pressure (indicated on most tire sidewalls); being careful about filling tires with air, particularly with gas station pumps which can be inaccurate and cause tire explosions; not abusing tires by riding over curbs, riding double, and skidding to a stop; and not letting bicycles stand for any length of time on underinflated tires
- *Lubrication* (according to bicycle manual instructions) of brakes, derailleur, chain, pedal, and other parts
- *Tightening* bolts and screws periodically
- *Adjusting brakes* as they wear or loosen by turning appropriate screws

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*This activity also appears in Mini-unit 1.

- *Keeping bicycle dry* and free from mud

Follow-up discussion can center on reasons maintenance is important, such as

- Making sure bicycle riding is as safe as possible (e.g., by having working brakes)
- Making riding as easy as possible (e.g., through lubrication and proper tire pressure)
- Ensuring a longer lasting bike (e.g., by wiping it when it is wet)
- Avoiding inconvenient equipment failures and breakdowns on the road (e.g., flat tires, lost bolts or screws)
- Maintaining resale or trade-in value

Finally, the class should discuss the reasons why bike owners are often reluctant to perform regular maintenance, such as

- Laziness
- Not knowing that maintenance makes for safer and easier riding
- Insecurity about how to do technical things like oiling joints and tightening screws and bolts

Evaluation Method:

Students write a brief *Manual for Bicycle Maintenance* that includes the basic maintenance tasks the average owner can perform.

Variations and Supplementary Activities:

Hold a class discussion on how to winterize a bike, including lubrication, leaving the bike upside down or hanging, treating the saddle with saddle soap to preserve the leather, and cleaning and oiling all chrome parts and spokes.

A trained mechanic can be invited to class to discuss how to take care of a bicycle.

ACTIVITY #33

Mini-unit Topic: Maintaining a Bicycle

Approximate Class Time: 2-4 periods, plus out-of-class time

Capsule Activity Description: Students interview bike riders on common bicycle malfunctions they have experienced and what kind of maintenance they perform on their bikes to prevent breakdowns.

Goal:

To know why bicycle maintenance is necessary to prevent certain types of bicycle malfunctions.

Concept Treated:

- Certain bicycle malfunctions are closely or directly related to lack of proper maintenance.

ACTIVITY

Break the class into small groups to research briefly bicycle maintenance tasks. Have each group develop a list of questions to ask bike riders regarding bicycle maintenance problems they commonly have. Each group takes one other group's questionnaire as a dry run. Sample questions the groups might ask follow:

- What are the two or three most common problems you have with the functioning of your bicycle?
- How do you take care of these problems? Do you fix them yourself, have a friend fix them, use a mechanic, or just not fix them?
- What types of maintenance do you perform on your bicycle?
- If you do not perform all the standard maintenance tasks, why not?
- Do you feel regular maintenance helps prevent bicycle malfunctions?

The groups decide how to poll cyclists--on the street, door to door, choose among classmates or among bicycle club members, etc. They then decide what correlations to make, such as by age, sex, type, and age of bike owned. Finally, the groups divide up responsibility for the polling.

After conducting the poll, the groups collate and evaluate their findings and prepare a report for the class. After presenting the report, the groups respond to comments and questions from you and the class.

Evaluation Method:

Students develop a brochure for cyclists on what maintenance to perform and indicate how such maintenance can help prevent future bicycle malfunctions.

Variations and Supplementary Activities:

The group can interview the parents of small children who ride bikes.

Students can also interview bicycle mechanics on bicycle problems that regular maintenance and care can prevent. Sample questions students can ask include the following:

1. What problems with bicycles are brought in to you that could have been prevented by regular maintenance?
2. What maintenance task could have prevented each type of problem?
3. Why do some people not perform these maintenance tasks?
4. What other maintenance tasks should the average bike owner perform, and how often?
5. How should a bike be stored in winter?
6. Are there any kinds of maintenance tasks which must be performed by a mechanic?

ACTIVITY #34

Mini-unit Topic: Maintaining a Bicycle

Approximate Class Time: 1 period, plus out-of-class training

Capsule Activity Description: Students perform basic maintenance tasks on a bicycle in class.

Goal:

To be able to perform various bicycle maintenance tasks that they can then perform on their own bikes.

Concepts Treated:

- Various bicycle maintenance tasks, although they may appear simple on the surface, in fact require a good deal of practice to carry out well.
- Required bicycle maintenance tasks--or the way they should be performed--differ for various makes and models of bicycles.

ACTIVITY

The class divides into small groups, and each group is assigned or selects one of the following maintenance tasks: lubrication, tire care, tightening bolts and screws, or adjusting brakes. Different groups can be assigned to work with different makes or models of bikes (e.g., racing, high-rise, one-speed, etc.), or all can work on the same type. Each group is responsible for learning how to perform its task well. The groups get together after school to practice their tasks on a bicycle donated by a group member, parent, faculty member, or member of the community. After becoming proficient in its bicycle maintenance task, each group informs the teacher that it is ready to demonstrate the task to the rest of the class. On the same day or during different classes, the groups then perform their maintenance tasks in front of the class, explaining what they are doing in the process. Other members of the class ask questions and comment of the proficiency of the group demonstrating the task.

Evaluation Methods:

Students prepare a brochure for classmates and others on how to perform basic maintenance tasks.

Each group performs one of the maintenance tasks it did not present. The performance is then critiqued by the group whose specialty that task was.

Variations and Supplementary Activities:

Students who don't own bicycles can act as inspectors.

Students can use the inspection list provided on Spirit Master #8 for maintaining their own bikes.

A bicycle mechanic can be invited to class to evaluate each group's performance and to offer suggestions of his own.

MINI-UNIT 8

INVESTIGATING THE PREVENTION OF BICYCLE THEFT

Bicycle thefts have become a major problem in the United States as the number of bicycles has proliferated and their value has soared. This unit seeks to make students aware of the severity of the bicycle theft problem and of measures they can take to minimize, if not eliminate, the chance of their own bicycle being stolen.

This unit is a natural follow-up to Mini-unit 6 ("Buying a Bicycle") since owners of new bicycles should know immediately how to protect their bicycles from theft.

Other concepts this unit addresses are the following:

- There are many things that can be done to help prevent bicycle theft; some of these are more effective than others.
- The police may be of help in locating a stolen bike.

MINI-UNIT 8 LESSON PLAN

Investigating the prevention of bicycle theft

Activity #	*Activities*	*Class Time*
35	DESCRIPTION: Students discuss methods for preventing bicycle theft. GOAL: To be aware of various methods of preventing bicycle theft and to know why some measures are preferable to others.	½-1 period
36	DESCRIPTION: Students interview police officers about bicycle thefts. GOAL: To be aware of the reasons for bicycle thefts and what happens after a bicycle is stolen.	2-3 periods plus out-of-class time

Total Class Time: 2½-4 periods.

ACTIVITY #35

Mini-unit Topic: Preventing Bicycle Theft

Approximate Class Time: ½-1 period

Capsule Activity Description: Students discuss methods for preventing bicycle theft.

Goal:

To be aware of various methods of preventing bicycle theft and to know why some measures are preferable to others.

Concepts Treated:

- There are many things that can be done to help prevent bicycle theft; some of these are more effective than others.
- Some preventative measures are more effective than others, for specific reasons (e.g., locking the front wheel to an object may result in everything but the front wheel being stolen).

ACTIVITY

Students write individual responses to the following scenario:

You have just bought a new bicycle. Your last one was stolen, but you decided you could afford another one. You know that you will not be able to buy a third one if this one is stolen. What do you plan to do to make absolutely sure *this* one isn't stolen?

On the following day, students break into small groups and are given written instructions to

1. Read each other's papers.
2. List all the methods mentioned for keeping a bicycle from being stolen.
3. Discuss and record which methods will really help, and why.

The groups present their conclusions to the class and respond to questions and comments from you and the other groups. You can suggest methods not otherwise mentioned by students, such as

- Trading in the new bike for an old beat-up one that fewer people are likely to want to steal
- Using a special kind of lock, such as the Kryptonite^{R} bike lock designed by MIT students, or a heavy-duty tempered-metal chain and lock (both can be found at most bicycle shops)
- Locking the bike to a solid, immovable object
- Passing the bike chain through both wheel and frame before locking it to a fixed object
- Leaving the bike within your view at all times
- Asking someone to keep an eye on the bike while the owner is away
- Removing the front wheel and locking it up too
- Registering the bike with the police to facilitate police identification if the bike is stolen and recovered (in some communities, bicycle owners must register their bikes with the police--what is the policy in the students' own community?)
- Keeping a record of the bike's brand, model, number, and serial number
- Considering adding the bike to the student's parents' personal property floater on their home-owner's insurance policy
- Considering the purchase of bike theft insurance sold by some local bicycle dealers
- Parking your bike in a "Rally Rack" or theft-prevention rack

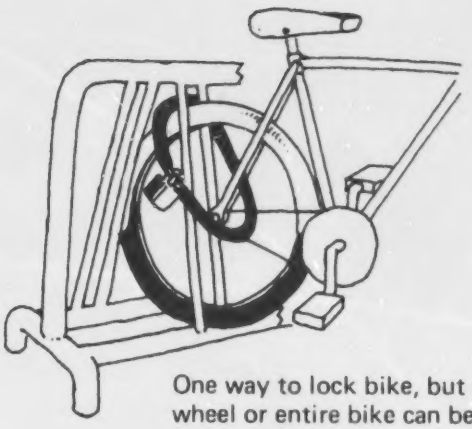
Evaluation Method:

Students write a brochure for other students and the community on how to reduce the incidence of bicycle thefts.

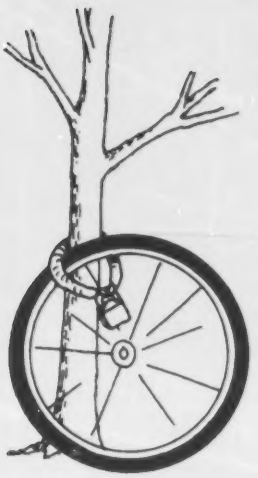
Variations and Supplementary Activities:

This activity can be a research assignment.

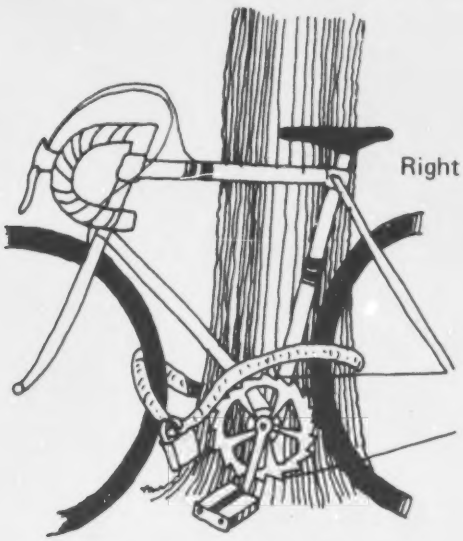
Students can discuss dangerous riding locations and times where they might be jumped and robbed, such as parks at night.



One way to lock bike, but front wheel or entire bike can be stolen leaving only



the wheel



Right way to lock bike.

ACTIVITY #36

Mini-unit Topic: Preventing Bicycle Theft

Approximate Class Time: 2-3 periods, plus out-of-class time

Capsule Activity Description: Students interview police officers about bicycle theft.

Goal:

To be aware of the reasons for bicycle thefts and what happens after a bicycle is stolen.

Concepts Treated:

- People have many ways of stealing bicycles.
- Certain measures can be taken which may reduce the possibility of theft.
- The police may be of help in locating a stolen bike.

ACTIVITY

A small group of students does preliminary research on bicycle thefts in their community and then formulates a list of questions to ask police officers. Sample questions include

- How many thefts are there in our town in a week?
- Is the number going up, down, or remaining the same?
- What kinds of bicycles seem to be stolen most often?
- Why those kinds?
- How many bicycles that are reported stolen are recovered?
- What happens to stolen bicycles police find? How are owners located? What happens to the bikes if their owners are not located?
- What can bike owners do to prevent bicycle thefts?
- Who steals bikes? Kids? Adults? Men? Women?

- What do bicycle thieves do with bikes they have stolen?
- What is the penalty for stealing bikes?

After completing the interviews, the group prepares and presents a report to the class that makes recommendations for preventing or reducing the number of bike thefts. The group responds to comments and questions from you and the class.

Evaluation Methods:

Students role-play a scenario in which a police officer is interviewed by a newspaper reporter on the subject of bicycle theft.

Students write first-person autobiographical accounts, as if they were bicycles who could talk, about how "they" were stolen, by whom, and what happened to "them."

Variations and Supplementary Activities:

A policeman can be invited to class to answer these and other questions about bicycle theft.

This activity can be an individual written research project.

The class can develop a schoolwide campaign against bike theft, including designing posters and writing articles for publication in a school or community newspaper.

MINI-UNIT 9

IDENTIFYING WHEN AND HOW TO SEEK REDRESS OF GRIEVANCES

This unit is designed to help students develop skills in determining when it is appropriate to complain about poor quality in the bicycles they buy or the bicycle repairs that have been done for them.

In addition, the unit promotes the development of positive attitudes toward redress of grievances--specifically, the attitude that there are both appropriate and inappropriate times and ways to complain about poor customer service.

Among other key concepts the unit addresses are the following:

- There are certain accepted methods of seeking redress of grievance, and these are more likely to produce positive results.
- The redress one seeks should match the grievance (that is, one should not make unreasonable demands of the salesperson or manufacturer, since this might lead to no redress at all).
- Phrasing a grievance letter in certain terms and using certain letter-writing techniques increase one's chances of receiving a reply or of having the grievance redressed.

MINI-UNIT 9 LESSON PLAN

Identifying when and how to seek redress of grievances

Activity #	*Activities*	*Class Time*
37	DESCRIPTION: A class discussion is held on reasons for seeking redress of grievances and how this should be done. GOAL: To be aware of situations in which seeking redress of grievances is justified and ways in which this should be done.	1½-2½ periods
38	DESCRIPTION: Students role-play scenarios in which a consumer complains to a salesperson or mechanic. GOAL: To be able to seek redress of grievances effectively and appropriately for unsatisfactory purchases and repairs.	1 period
39[a]	DESCRIPTION: Students practice writing letters of complaint concerning grievances they have about bicycle purchases or repairs. GOAL: To be aware of the reasons for and efficacy of writing letters of grievance.	1 period
40	DESCRIPTION: Students poll bicyclists on complaints about their bicycles and what, if anything, they did about their grievances. GOAL: To know the most common kinds of bicycle-related grievances owners have and the best methods to go about seeking redress of these grievances.	2-4½ periods

[a]This activity also appears in Mini-unit 1.

Total Class Time: 5½-9 periods.

ACTIVITY #37

Mini-unit Topic: Seeking Redress of Grievances

Approximate Class Time: 1¼-2½ periods

Capsule Activity Description: A class discussion is held on reasons for seeking redress of grievances and how this should be done.

Goal:

To be aware of situations in which seeking redress of grievances is justified and ways in which this should be done.

Concepts Treated:

- Certain situations justify seeking redress of grievances, and certain others do not; one should be relatively sure that one is justified in seeking redress before "leaping into the fray."
- There are certain accepted methods of seeking redress of a grievance; these are more likely to produce positive results.
- The redress one seeks should match the grievance (that is, one should not make unreasonable demands of the salesperson or manufacturer, since this might lead to *no* redress at all).

ACTIVITY

A class discussion is held on reasons and methods for seeking redress of grievances concerning bicycle problems. The discussion can center on situations in which this is justified, how to seek redress, and the efficacy and ethics of different grievance actions.

Reasons for Seeking Redress of Grievances. The discussion should focus on two aspects of why to seek redress of grievances: specific causes for complaint (the grievance) and the objectives people expect to achieve by complaining (the redress). Specific grievances may revolve around such areas as purchase of defective bicycles or accessories; shoddy, delayed, or over-priced repair work on bicycles or accessories; unsafe bicycling conditions that may lead to or already have led to accidents; lack of facilities for bicycles; and lack of means by which to seek redress of grievances. The types of redress sought can

include repair of defective bicycles or accessories at no additional charge; injunctive relief against misleading advertising; punitive damages for dishonest sales methods, shoddy materials, or shoddy repairs; provision of an entirely new bicycle or accessory to replace a defective one at no extra charge; reduction in repair charges; provision of safe community bicycling facilities; elimination of unsafe community bicycling obstacles; and provision of means by which to easily and effectively obtain redress of grievances. You should provide examples of how specific grievances and appropriate redress objectives are related. For example, if a bicycle shop performs shoddy repair work, what *specific objectives* can and should a consumer seek to redress that grievance: no charge for faulty repair work? correction of the problem at no further charge?

Point out that how one obtains redress of grievances depends on what one's *objectives* are in seeking redress. If one wanted punitive damages for misleading advertising, one would use different methods for redressing this grievance (e.g., court action) than if one simply wanted to exchange a bike for a different one (e.g., complaints to the management). In other words, there are three elements that must be examined: (1) the grievance (e.g., shoddy repairs); (2) the objective in seeking redress (e.g., free correction of the faulty repairs); and (3) the methods by which to achieve the redress (e.g., writing the Better Business Bureau).

There are two steps in obtaining redress of grievances. The first is *identifying who has the power to redress the grievance*--that is, who is in a position to refund the consumer's money or make the bike repair correctly, or who is in a position to force the merchant or repairman to redress the grievance. Possibilities include the Better Business Bureau, the salesperson, the store manager, the courts, and many other individuals and groups.

Once the individual(s) or groups who can redress the grievance have been identified, the consumer must decide *what methods should be used* to encourage or force the targeted person or group to redress the grievance.

Methods for Obtaining Redress of Grievances. Methods that can be presented include complaining to the salesperson or manager in person, by telephone, or by writing personal, return-receipt-requested letters; refusing to pay for a newly purchased bicycle (or accessory) or a repaired bicycle until after one has examined the item carefully for defects; if defects are found in a new or repaired bicycle or accessory, not paying at all or, if a check has already been made out, stopping payment; phoning, writing to, or meeting with appropriate consumer protection, business, and legal agencies, such as the

> U.S. Consumer Product Safety Commission, Washington, DC 20207 or its field offices in New York City, Atlanta, Chicago, San Francisco, Los Angeles, Boston, New Orleans, Kansas City, Philadelphia, Seattle, Denver, Minneapolis, Cleveland, and Dallas; toll-free number is 800-638-2666 (Maryland only, 800-492-2937).

Federal Office of Consumer Affairs, Department of Health, Education and Welfare, Washington, DC 20201.

State, county, and local consumer protection agencies, many of which are housed in the district attorney's office. Addresses and phone numbers can be obtained by asking the telephone operator for information.

Local Chamber of Commerce--address and phone number can be obtained from telephone directory or from Chamber of Commerce of the United States, 1615 H Street, N.W., Washinyton, DC 20006.

Local Better Business Bureau--address and phone number can be obtained from telephone directory or from Council of Better Business Bureaus, 1145 19th Street, N.W., Washington, DC 20036.

Small claims courts, legal aid agencies, neighborhood legal services, appointed and elected officials, owners and managers and central offices of stores that are part of a chain of stores can also be helpful. Other possibilities include requesting help from local newspaper's action line; asking local media to publicize complaints in letters to the editors, articles, phone calls to talk shows, etc.; demonstrations, such as bike-ins, rallies, and picketing; and independent activities, such as creating road signs, developing bikeways, opening up one's own bike repair shop, etc.

Follow-up discussion on redress of grievances can center on such issues as

- Which methods of redress are legal?
- Which methods that are not illegal are nevertheless unethical?
- It is ever permissible to use unethical methods when they are the only ones that may be effective?
- When is seeking redress of grievances not worth it because it involves too much time and effort?

During the following period, students break into small groups and respond to scenarios concerning grievances over faulty repair work or defective purchases. Each group is given three scenarios of possible grievances. Sample scenarios are provided at the end of this activity. Each group is given written instructions to

1. Carefully read the first story they have been given.
2. Decide and record whether they consider what happened to be unfair and why.
3. If they decide that what happened was unfair, discuss and record what they want to see done. For example, do they want their money back?

4. Then discuss and record what exactly they will do to get the salesperson to comply with their wishes, and explain why they chose that course of action.

5. Repeat Steps 1 through 4 for one or more of the other scenarios.

The groups then report their results to the class and respond to comments and questions from you and the class. You may want to make explicit the criteria by which consumers decide or should decide

- Whether to seek redress of grievances (e.g., they have a legitimate complaint; seeking redress will not involve too much time, effort, or money; seeking redress will be effective)

- Which courses of action to choose by which to redress the grievance (e.g., on the basis of efficacy, morality, and costs in terms of personal time, money, and effort expended)

Evaluation Methods:

Each student develops one scenario of his or her own. Students exchange scenarios and respond to them along the lines suggested in the activity. The student who wrote the scenario and the one who responded to it discuss the response together.

Students break into small groups and select one grievance they actually have or think of a common grievance and discuss the best methods for seeking redress.

Sample Scenarios

Delay

You have just bought a new $234 racing bike from Zooey's Department Store. You took it out for its maiden ride and the rear derailleur broke. You go home and look up the warranty. It says that Zooey's will replace any defective parts during the first two months, but will charge for any labor. You take the bike in and Zooey's tells you the labor will probably cost about $25 and it will take them about five weeks to get it repaired because they have to send it back to the manufacturer who has a lot of other bikes to repair before yours. The salesperson at Zooey's tells you that you could take it to a bike repair shop for faster service, but they will charge you not only $25 labor but $35 for a new derailleur. What, if anything, do you do?

Poor Service

One of your brake cables broke, and you have just had your bike repaired at Bibby's Bicycle Shop for $7.50. You check the brakes in the store, and they seem okay. But the next Saturday when you go out riding, the same cable breaks again! You take the bike back to Bibby's, and the salesperson tells you it'll cost you $12.50 for a new cable and labor. You suspect that Bibby tried to do a quick patch-up job on your brake before and since it didn't work, he's now going to do it right. But in the meantime, you have made a second trip, and your original $7.50 is down the drain. What, if anything, do you do?

Refusal to Repair

You bought a new bike and rode it a few times, but the brakes just didn't seem as good as they should be. When you used them, your bike didn't stop as sharply as you wanted or thought it would. You didn't really know whether this was just the way bike brakes work, or whether it was because they weren't working properly. So you had two of your friends ride your bike, and they told you that you were absolutely right: the brakes weren't any good. Since you have a warranty that says Bumble's Bicycle Shop, where you bought the bike, will repair anything that goes wrong in the first 90 days, you took it back to them. But the salesperson told you there was nothing wrong with the brakes. "What do you expect for an $85 bike? Instant action?" he said. He refuses to repair them, saying there's nothing he can do. What, if anything, do you do?

No Refund

You just bought a new $3.50 Whimper bicycle light at Arlo's Accessory Shop for your bike so you could ride more safely at night. On your second night out, the light stopped working. You took it back to Arlo's but he told you he couldn't refund your money (it's against company rules) and that's the last Whimper bicycle light he has in stock. He'll be glad to apply the $3.50 toward a better $12.50 Whopper light, but this means you will have to pay an additional $9.00. The Whopper light is more money than you can afford. What, if anything, do you do?

ACTIVITY #38

Mini-unit Topic: Seeking Redress of Grievances **Approximate Class Time:** 1 period

Capsule Activity Description: Students role-play scenarios in which a consumer complains to a salesperson or mechanic.

Goal:

To be able to seek redress of grievances effectively and appropriately for unsatisfactory purchases and repairs.

Concepts Treated:

- Certain methods for seeking redress of grievances are more effective than others.
- The redress which one seeks should match the grievance.
- Practicing seeking redress of grievances can facilitate such action when it proves necessary in real life.

ACTIVITY

Students role-play customers seeking redress of grievances from bicycle repair persons or salespeople who, according to these consumers, have engaged in unfair business practices. Sample role profiles are provided at the end of this activity.

After each role-play, participants read their role profiles to the class and discuss the feelings they had while role-playing; in particular, "salespeople" and "mechanics" discuss their emotional reactions to different approaches on the part of "customers"--which approaches made them more likely to be firm and which approaches inclined them to make concessions. Nonparticipants discuss what they would have said and done had they been involved. The class should be encouraged to write its own role profiles.

After completion of the role-plays, list on the blackboard the possible responses that salespeople and mechanics can offer to justify their positions, and the possible approaches consumers can use in seeking redress of grievances.

Evaluation Method:

Students compose the dialogue to one or more scenarios, writing the parts of the customer and the salesperson.

Variation and Supplementary Activity:

This activity can be held as a class or small group discussion.

Sample Role Profiles

No Refund

Customer

Last week you bought a Whimper bicycle light for your bike for $3.50 at Arlo's Accessory Shop. The second time you used it, the on-off switch broke off. It's not something you can repair. You need a new light. You are angry and have taken the light back to Arlo's and walk up to him to demand he give you a new light for nothing or give you your money back. What do you say?

Salesperson

You work in Arlo's Accessory Shop. Most of the bicycle accessories you sell are cheap, but most of your customers don't want expensive bicycle lights, saddle bags, horns, and so on. The problem is that many of the accessories you sell break pretty quickly because they're so cheaply made. It's store policy not to refund money on any sales or to exchange anything, so it's sometimes a problem when someone comes in the store with an accessory that broke quickly and he wants his money back. In fact, here comes the customer who bought your last Whimper bicycle light last week. He looks angry. It must have broken already. Why didn't he buy the more expensive Whopper light you had suggested? Although the Whimper light is only $3.50 and the Whopper light is $12.50, the Whopper light wouldn't break. Well, here comes the complaint.

Delay

Customer

You bought a new $234 racing bike from Zooey's Department Store. You took it out for its maiden ride and the rear derailleur broke. You went home and looked up the warranty. It says that Zooey's will replace any defective parts free during the first two months but will charge for labor. You take the bike into Zooey's and speak to the salesperson. You are about to tell him the problem and ask him to repair or replace the derailleur for nothing since it's in your guarantee. You also want him not to charge you for the labor, even though that's not in the guarantee. You step up confidently to him. What do you say?

Salesperson

You sell bicycles in Zooey's Department Store. However, your store does not repair bikes. It sends them out to be repaired and this usually means it takes about five weeks to get a bike repaired for a customer. You don't like this policy because customers get angry at you and your salary depends on how many bikes you sell. The more you sell, the higher your salary.

And the more angry customers you have, the less likely they are to buy any bikes from you in the future. But it's the store policy and you are stuck with it. In fact, here comes an angry-looking customer with a bicycle you remember selling him only last week. You remember that this particular model has been having trouble with the derailleurs--and it costs $25 in labor to have them fixed, although the warranty does guarantee that there is no charge for the part. Oh, oh! Here comes what looks like another angry customer with a broken derailleur!

Poor Service

Customer

You had your brakes repaired on your bike last week in Bibby's Bicycle Shop and it cost you $7.50. One of the cables had broken. Only yesterday the same cable broke again! You are furious and have taken the bike back to Bibby's ready to demand that he repair it for nothing--no parts or labor charges--and guarantee it won't break again. The repair person has just finished waiting on another customer. You walk over to him. What do you say?

Repairman

You are the repairman in Bibby's Bike Shop. You feel you are good at your job, but of course sometimes you don't do such a great job making repairs--you have so many to do and the owner, Mr. Bibby, wants you to get as many done as you can. Sometimes, too, you have to work with bikes and materials that aren't that great--they aren't made well or they break easily. Right now, as you deal with one customer, you notice a customer whose brake cables you repaired only last week bringing his bike back into the store, and you can see the broken cable across the store. You charge $7.50 ($4.00 labor and $3.50 for parts) for fixing brake cables but you know this customer is probably going to want you to fix this cable free. How are you going to solve this problem? Mr. Bibby doesn't like you to do repairs for nothing, even when the problem was your fault. But it wasn't even your fault, necessarily. Maybe the cable was a lousy cable to begin with. You're just finishing up with your customer and this customer with the broken cable walks over to you. What do you say?

ACTIVITY #39*

Mini-unit Topic: Seeking Redress of Grievances

Approximate Class Time: 1 period

Capsule Activity Description: Students practice writing letters of complaint concerning grievances they have about bicycle purchases or repairs.*

Goal:

To be aware of the reasons for and efficacy of writing letters of grievance.

Concepts Treated:

- Phrasing one's grievance letter in certain terms and using certain letter-writing techniques increase one's chances of receiving a favorable reply or of having the grievance redressed; factual, objective letters are better than angry, threatening ones.
- Certain types of information should be included in complaint letters, including copies of purchase or warranty papers.

ACTIVITY

Students read one or more of the sample scenarios in Activity #39 and write letters seeking redress of the grievances illustrated in those scenarios. Each student (or group of students) decides to whom he should write and what should be included in his letter. A list of potential recipients and a sample letter are provided at the end of the activity. Follow-up discussion can focus on

- How useful letter-writing is
- Who the best targets for writing letters to are

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*This activity also appears in Mini-unit 1.

- Whether letters are more effective if they are angry, factual, apologetic, etc.

- What information should be included (e.g., the writer's name and address; the name of bicycle shop and its address; the make, year, and number of model; a description of the complaint; copies of repair, purchase, or warranty papers; the conduct of the salesperson dealt with; and an indication that copies are being sent to other people)

Evaluation Method:

Each student writes his or her own letter and then exchanges it with another student. Students criticize each other's letters in terms of their potential effectiveness.

Variation and Supplementary Activity:

Students can role-play telephoning their complaints to one or more sources of redress of grievances while other students role-play the party receiving the call.

Agencies, Individuals and Groups to Which to Write Letters Seeking Redress of Grievances

1. Bicycle manufacturers or distributors (check bike manual or call bike store).

2. The Consumer Product Safety Commission: To report safety defects or bicycling injuries, use toll-free phone number: 800-638-2666 (in Maryland only: 800-492-2937).

3. National Highway Traffic Safety Administration (for help with safety guidelines, not warrantee or redress).

   Administrator, NASSIF Building
   400 7th and D Streets
   Washington, DC 20590

4. Federal Trade Commission (if the company engages, in interstate commerce and the complaint alleges false advertising or restraint of trade)

   Chairman, FTC
   Washington, DC 20580

   or regional offices in Atlanta, Boston, Chicago, Cleveland, Kansas City, Los Angeles, New Orleans, New York, San Francisco, Seattle (consult a local phone book).

5. Voluntary consumer groups. For names of local organizations, write to Executive Director, Consumer Federation of America, Suite 1105, 1102 14th Street, Washington, DC 20005.

6. State and city consumer protection agencies (consult a local phone book).

7. Newspaper action lines (call local newspapers).

8. Better Business Bureau (consult a local phone book).

9. Federal congressmen (House of Representatives, Washington, DC 20510) and senators (U.S. Senate, Washington, DC 20510) to recommend Federal legislation.

10. State and local governmental representatives, governor, mayor, etc. (call information for addresses).

11. Foreign embassies (for bikes manufactured abroad; consult a local phone book).

Sample Consumer Complaint Letter

Ms. Sarah Rizzo, President
Spoke Bicycle Company
Transit, PA 00000

14 March, 1977

Dear Ms. Rizzo:

On April 1, 1976, I bought a Loser XKE bicycle from Larry's Bicycle Shop on 50 Main Street, Boston, Massachusetts. With the bike came a year's guarantee on parts and labor. However, two weeks after I bought it, the shifting mechanism broke. I took the bike back to Larry's Bicycle Shop, but he told me I would have to pay for the repairs because it was my fault the mechanism broke. He claims I must have let the bike fall over on it. This isn't true. It broke while I was riding up a hill. I insist on having the warranty honored. I hope you will take prompt action to remedy this unethical behavior on the part of Larry's Bicycle Shop.

I enclose copies of my sales receipt and the manufacturer's guarantee. Thank you for your attention.

Sincerely,

Paul O'Reilly

cc: Mass. Consumer Protection Agency
Boston Better Business Bureau

ACTIVITY #40

Mini-unit Topic: Seeking Redress of Grievances

Approximate Class Time: 2-4½ periods, plus out-of-class time

Capsule Activity Description: Students poll bicyclists on complaints about their bicycles and what, if anything, they did about their grievances.

Goal:

To know the most common kinds of bicycle-related grievances owners have and the best methods to go about seeking redress of these grievances.

Concepts Treated:

- Certain characteristics, such as age and sex, affect the ways that people approach complaining about bicycle problems.
- There are numerous ways of seeking redress for the same grievance.
- In certain situations, there are definite obstacles to seeking redress for bicycle-related grievances.

ACTIVITY

Small groups of students poll bicyclists about what complaints they have had concerning their bicycles in the past and what, if anything, they did about these complaints. The groups decide what questions to ask and then solicit additional questions from classmates. Sample questions can include

1. When you bought your bicycle, did you have any complaints about the way it worked?
2. If so, what specifically were your complaints?
3. What, if anything, did you do about your complaints?
4. Were you successful in your efforts to seek redress of grievances? Why?

5. Have you had repair work done on your bicycle, and have you had any complaints about it? (Repeat second, third, and fourth questions.)

Questions are included that probe why bicycle owners did not seek redress of grievances even when they felt strongly that they had a legitimate complaint. Respondents are asked what would encourage or enable them to seek redress of grievances, such as more convenient methods of registering complaints and more confidence that complaining would serve some purpose or lead to some result.

The groups decide who they will poll, such as the parents of children with bikes, teenagers, classmates, community residents, bicycle club members, and other groups.

After conducting the poll, the groups analyze their results in terms of

- Whether bicycle users and purchasers have common grievances
- What these grievances are (unkept guarantees, shoddy repair work, delays in repair work, defective purchases)
- What consumers tend to do about these grievances
- Why consumers fail to seek or are unsuccessful in obtaining redress of their grievances
- How bicycle owners can be assisted in their efforts to obtain redress for their grievances

The groups prepare and present reports to the class, and respond to questions and comments from you and the class.

Evaluation Method:

Students role-play or write the dialogue to scenarios in which news reporters interview bicycle repairers about what customers do and should do about complaints.

Variations and Supplementary Activities:

Students can submit the results of their poll for publication in the school and community newspapers.

Students can interview or poll bicycle repairers as to the most common customer complaints and the most common and effective methods customers can use for what they feel to be grievances.

This activity can be an individual research assignment or class discussion.

MINI-UNIT 10

IDENTIFYING AND PROMOTING BICYCLE FACILITIES

The extent, convenience, and safety with which people can bicycle depend heavily on the nature of the bicycle facilities available to them. Bikeways and bike paths make riding less dangerous and more enjoyable, and equipment for safely securing parked bicycles reduces the potential for theft.

Federal, state, and local governments have increasingly recognized the importance of bicycle facilities and have collectively been spending several million dollars a year to provide them.

This mini-unit will help students become familiar with what kinds of bicycle facilities there are and how they can best be used. In addition, the unit involves students in identifying what additional or expanded bicycle facilities would be desirable in their communities so that they can engage in appropriate citizen participation activities to secure them.

Other key concepts the unit addresses are the following:

- In order to obtain adequate and satisfactory bicycle facilities for a community, it is necessary to assess that particular community's needs and resources first.
- Observation of bicycling habits among residents of a given community can be of help in deciding what kinds of bicycle facilities are needed in that community.
- Planning of bicycle routes is a relatively complicated activity, calling for several research and activity oriented steps.

This mini-unit can be logically taught after the units on purchasing and maintaining a bicycle (Mini-units 6 and 7). It can also be implemented in conjunction with the mini-units on safety (Mini-units 3, 4, and 5) in terms of the integral relationship between the provision of bikeways and the reduction of bicycling hazards.

MINI-UNIT 10 LESSON PLAN

Identifying and promoting bicycle facilities

Activity #	*Activities*	*Class Time*
41	DESCRIPTION: A class discussion is held on existing and needed bicycle facilities (such as bikeways and parking areas) and how to plan and advocate them. GOAL: To know what kinds of facilities are needed in the community (as well as in others) and how to go about obtaining them.	1½-2 periods
42	DESCRIPTION: Students keep a written list of their observations about local bicyclists for one or more days. GOAL: To be aware of bicycle-riding habits of people in the community, including the ways in which residents use or abuse bicycle facilities.	½-1 period plus out-of-class time
43	DESCRIPTION: Students obtain a map of their community and plot and publicize bicycle trails for recreation and commuter transportation. GOAL: To know the various steps that go into planning and developing a desirable bike route for transportation or recreation in the community.	3-5 periods plus out-of-class time

Total Class Time: 5-8 periods.

ACTIVITY #41

Mini-unit Topic: Identifying Bicycle Facilities

Approximate Class Time: 1½-2 periods

Capsule Activity Description: A class discussion is held on existing and needed bicycle facilities (such as bikeways and parking areas) and how to plan and advocate them.

Goal:

To know what kinds of facilities are needed in the community (as well as in others) and how to go about obtaining them.

Concepts Treated:

- In order to obtain adequate and satisfactory bicycle facilities for a community, it is necessary to assess that particular community's needs and resources first.
- Planning for community bicycle facilities involves going through a number of well ordered steps.
- The public can engage in citizen participation designed to promote the development of such bicycle facilities as bikeways and bike lanes.

ACTIVITY

A class discussion is held on what bicycle facilities exist in the community, what other facilities may be needed, and how citizens can plan for and advocate these facilities. The discussion can cover five areas, as follows:

Definitions of terms that describe facilities include bikeways (streets with signs indicating that they may be used by bicyclists but that there are no separations between cyclists and motorists), bike lanes (right-hand sections of streets marked off by a white lane for use by bicyclists), and bike paths (trails for bicycles that are physically separate from streets).

Types of facilities that can be identified include bikeways, bike lanes, bike paths; street signs warning automobile drivers that bicyclists are on the streets; convenient and safe parking facilities for bicycles (metal, well-lighted, easily observable); legislation--not exactly a

"facility," but within the general area of this discussion (for example, legislation allowing bicyclists to use uncrowded sidewalks); street cleaning to remove glass and other debris from the edges of roads where bicyclists travel.

Purposes of facilities vary according to the facility. Some examples that can be discussed include purposes of bike paths and lanes (safety, speed, convenience, distance from car exhaust fumes), and purposes of parking facilities (convenience, i.e. closeness to destination, safety, i.e. where pedestrians and cars won't run into them, and security, i.e., reduced risk of theft).

Determining what facilities are needed involves two steps: (1) deciding what types of facilities are needed (parking facilities, signs, bike paths, bike lanes, etc.; this can be done by conducting polls and interviews, by observing community traffic patterns, and contacting appropriate officials in government and private agencies and organizations) and (2) deciding what the particular characteristics of each type of facility should be, including--for parking facilities (where they should be located, what they should be made of, whether they should be metered or free, etc.) and for bike lanes and paths (how wide they should be; how steep; how they should be surfaced, i.e., concrete, dirt, etc.; with overpasses and underpasses, etc.).

Indicating how facilities may be obtained also involves two steps, one research oriented and one action oriented: (1) Identifying who in the community makes or could make the important decisions about bicycle facilities and who has the power and money to implement these decisions (e.g., Departments of Public Works, Departments of Transportation, politicians, Park and Recreation Departments, highway or traffic engineers, etc.). The 1973 Federal Highway Act permits states to spend up to $2 million a year of highway funds on bike paths and parking facilities.* (2) Discussing the actions citizens may take to influence these individuals and agencies to provide bicycle facilities, such as writing letters to key individuals; organizing meetings with key individuals, agencies, and organizations to explain the need for bicycle facilities and press for their development; circulating petitions in the community and forwarding them to key individuals, agencies, and organizations by mail or at a meeting; during political campaigns, asking candidates to take a stand on providing bicycle facilities; joining bicycle organizations that engage in political activity, such as

Concerned Bike Riders for the Environment
P.O. Box 24388
Los Angeles, CA 90024

Friends for Bikecology
1035 East De La Buerra
Santa Barbara, CA 93103

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*See the reading at the end of this activity.

organizing bike-ins, rallies, and conventions (bike-ins involve attention to route selection, notification of proper authorities, involvement of the media, and determination of objectives); demonstrating the need for facilities (e.g., if parking on the sidewalk is not allowed, parking in automobile spaces to demonstrate the need for bicycle parking facilities); and building facilities or otherwise providing them oneself (e.g., developing bike paths or building parking facilities; permission, if not active assistance, from local authorities is usually needed for these activities).

Specific information for securing funds for new bikeways in the local community is contained in a government publication entitled *Bicycles and Pedestrian Facilities in the Federal-aid Highway Program*. Major portions of this pamphlet are provided at the end of this activity. In addition to reading the information provided in this publication, students will also need to learn which local government agencies have jurisdiction for planning and funding bikeways; and what procedures these agencies have for receiving comments and petitions from local residents.

After the discussion, students are given the following scenario and then engage in the exercise which follows:

> You have just been put in charge of deciding what public bicycle facilities your community should have. In addition, you have been given a million dollars to spend on building them. What, *exactly*, will you build and where?

Students then break into small groups, read each other's papers, and discuss them. Group discussion should center on

- What facilities those in the group agreed that the community needs.
- What facilities the group disagreed on and why.
- What are the most important facilities to get first and why?

The groups report their conclusions to the class and respond to comments and questions from you and the class.

Evaluation Methods:

Each student selects one facility which he or she would like developed in the community, records why, and develops a strategy for obtaining it. Students exchange papers, and each student pretends he or she is the person or agency toward whom the strategy of the other student's paper is aimed. The second student then decides whether he or she would actually be influenced by that strategy.

Students are given a map of a hypothetical community, or of a community other than their own, and asked to indicate where they feel there should be bicycle facilities and why.

Variations and Supplementary Activities:

Students can seek to have their suggestions implemented in their own community.

Students can poll the community on its attitudes toward bicycle facilities.

Bicycles and Pedestrian Facilities in the Federal-aid Highway Program*

Bicycle and Pedestrian Facilities in the Federal-aid Highway Program

In carrying out its responsibilities in the administration of the Federal-aid highway program, the Federal Highway Administration (FHWA) has responded to the changing transportation needs and desires of the American public. One of these changes is the increasing need and desire for bicycle facilities.

To meet this change, the FHWA has approved the provision of bicycle and pedestrian facilities as part of a Federal-aid highway project wherever conditions are favorable and a public need is served. The policy has thus far resulted in 55 miles of bicycle facilities constructed at an approximate cost of $2 million and another 334 miles planned at an estimated cost of $15 million. At least 23 states have taken advantage of this policy.

In 1973, Congress enacted the Federal-aid Highway Act of 1973, which permitted FHWA to expand its bicycle program. Section 124 of this Act (Title 23, U.S. Code, Section 217) allows the use of Federal-aid highway funds to construct bicycle and pedestrian facilities independent of regular highway projects. It should be noted that funds are not reserved exclusively for bicycle or pedestrian facilities, but are, in fact, highway funds that may be used for highways, bikeways, and walkways.

The Federal-aid Highway Program

The Federal-aid highway program is a cooperative effort between the states and the Federal government. Each year, the Federal Highway Administration apportions Federal-aid highway funds to the states for the planning, construction, and improvement of roads and bridges on the Federal-aid highway systems. The states are responsible for the administration of these various types of funds.

Highway Planning and Research Funds (HP&R) and Planning Funds (PL) are used to fund the planning and research activities that are necessary for development and implementation of highway projects, including bicycle and pedestrian facilities. The limit of the Federal-aid share of planning and research project costs is approximately 80 percent.

HP&R projects may be located anywhere in the state and are selected by the state transportation agency. PL funds are to be used for planning projects that are located in an urbanized area that contains a population of 50,000 or greater. The metropolitan planning organization responsible for transportation planning in the urbanized area selects the projects to be financed with PL funds.

The FHWA apportions construction funds to the states on a system basis: interstate, primary, secondary, and urban. The limit of the Federal-aid share of interstate system project costs is approximately 90 percent and approximately 70 percent for the other systems' project costs.

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*Published by the U.S. Department of Transportation, Federal Highway Administration (FHWA), 1974.

Projects proposed for Federal-aid funding on the interstate, primary, and secondary systems are selected by the appropriate state transportation agency with consideration of state and local needs and desires.

Urban system funds may be used for projects located in urban areas of 5,000 population or greater. Also, a certain portion of urban system funds must be spent in urbanized areas with a population of 200,000 or greater. Projects proposed for Federal-aid funding on the urban system are selected by local elected officials acting through the metropolitan planning agency. These projects must have the specific concurrence of the state transportation agency and the state transportation agency should be contacted to determine the Federal-aid highway systems in a particular area. This information may also be obtained from the FHWA division office located in each state.

Funding Bicycle and Pedestrian Facilities

Planning and Research Projects

Planning and research activities that are necessary for the development of bicycle facilities may be financed with HP&R and PL funds. Where appropriate, planning for bicycle and pedestrian facilities should be included in the normal ongoing transportation planning process.

Construction Process

The FHWA encourages the construction of bicycle and pedestrian facilities as part of the regular Federal-aid highway program. The construction of bicycle and pedestrian facilities may be approved where all of the following conditions are satisfied:

1. The facility will not impair the safety of the pedestrian, bicyclist, or motorist.

2. The facility will connect with existing facilities usable by bicyclists or it will form a segment of a proposed bicycle system.

3. A public agency has formally agreed to (a) operate and maintain the facility and (b) ban all motorized vehicles and snowmobiles when snow conditions and state or local regulations permit.

4. It is reasonably expected that the facility will have sufficient use in relation to cost to justify its construction and maintenance.

Incidental Construction Projects. Bicycle and pedestrian facilities may be constructed as incidental features of highway construction projects when the bikeway or walkway is to be constructed concurrently with the improvement for motor vehicular traffic and the bikeway or walkway will be within the normal right-of-way of the highway, including land acquired for traffic improvements and scenic enhancement programs. Projects constructed as incidental features of larger highway construction projects

may be financed with the same type of Federal-aid funds used for the basic highway project, including interstate projects, and are not subject to the funding limitations for independent bikeway or walkway projects.

Independent Construction Projects. Bicycle and pedestrian facilities may also be built independently of other highway construction projects. Such projects may be constructed on existing highway right-of-way or on special right-of-way or easements acquired for this purpose. Where facilities are to be located away from Federal-aid highway right-of-way, they must serve bicycle and pedestrian traffic which would normally desire to use the Federal-aid highway route.

The limit of the Federal-aid share of independent bicycle and pedestrian project cost is approximately 70 percent. A state may spend up to $2 million of Federal-aid funds in a year for independent bicycle and pedestrian facilities, provided a nationwide total of $40 million annually is not exceeded.

Features of Bicycle and Pedestrian Facilities

Bicycle and pedestrian facilities may include various features which will make their use safe, enjoyable, convenient, and efficient. The following are some of the features which may be included in a bicycle and pedestrian facility financed with Federal-aid highway funds.

1. Grading, drainage, paving, barriers, landscaping, and structures necessary to accomodate the number and type of users of the facility

2. Fixed source lighting where its use is appropriate

3. Right-of-way (land acquisition and relocation assistance) on independent bikeway and walkway construction projects

4. Curb-cut ramps on new existing facilities, including ramps required for access by the physically handicapped

5. Bikeway and walkway grade separations where (a) vehicular speeds and crossing volumes constitute a hazard of such magnitude as to justify the cost of the structure and the bikeway or walkway cannot be rerouted to another structure or (b) the separation is necessary because the highway has complete control of access

6. Traffic control devices including signs, signals, and pavement markings

7. Supplementary features such as shelters, parking, storage facilities, and comfort stations

8. Walks, barriers, and additional widths and lengths on bridges necessary for bikeways and pedestrian walkways for route continuity

Acquiring Federal Aid

The first recommended step in acquiring Federal aid for bicycle and pedestrian facilities is gaining the support of local governments for the proposed facility. Local governments provide valuable input into the highway program. This input varies from suggestions on the location and design of the facility to the selection of specific projects to be financed with Federal-aid highway funds.

The second step is to contact the local and state organizations previously identified as having the responsibility for the selection of projects to be financed with Federal-aid highway funds.

Further information concerning the operation of the Federal-aid highway program in a particular state may be obtained from the FHWA division office for that state.* The division offices can also provide specific information on state and local government agencies which should be contacted in conjunction with the development of projects.

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*Check your phone book under your state offices for the office in your state.

ACTIVITY #42

Mini-unit Topic: Identifying Bicycle Facilities

Approximate Class Time: ½-1 period, plus out-of-class time

Capsule Activity Description: Students keep a written list of their observations about local bicyclists for one or more days.

Goal:

To be aware of bicycle-riding habits of people in the community, including the ways in which residents use or abuse bicycle facilities.

Concept Treated:

- Observation of bicycling habits among residents of a given community can be of help in deciding what kinds of bicycle facilities are needed in that community.

ACTIVITY

Students volunteer to keep a detailed list of their observations about bicycles for a given period of time such as one or two days, or a week. Examples of observations can include

- Where are the cyclists riding--on sidewalks, streets, highways?
- Who is riding--students, commuters, women, children, the elderly?
- Are cyclists riding safely--on the right side of the road, using lights at night, making proper signals, not speeding?
- Are cyclists suffering interference from trucks, cars, taxis, pedestrians?
- Are they themselves interfering with auto traffic or pedestrians as they ride or where they park their bicycles?

After collecting their observations, students read their results to the class. The class then discusses what facilities, such as bike paths and parking facilities, are needed to accommodate bicycles in their community. For example, if cyclists are parking their bikes on the sidewalk and interfering with pedestrian movement, where and what kind of bicycle parking facilities are needed?

Evaluation Method:

Students write short biographies of "a day in the life of" a classmate that indicate what bicycle facilities that classmate could benefit from, and why.

Variation and Supplementary Activity:

The activity can be assigned as a written homework report.

ACTIVITY #43

Mini-unit Topic: Identifying Bicycle Facilities

Approximate Class Time: 3-5 periods, plus out-of-class time

Capsule Activity Description: Students obtain a map of their community and plot and publicize bicycle trails for recreation and commuter transportation.

Goal:

To know the various steps that go into planning and developing a desirable bike route for transportation or recreation in the community.

Concepts Treated:

- Planning of bicycle routes is a relatively complicated activity, calling for several research- and activity-oriented steps.
- Once planning has been undertaken, it may be necessary to undertake community action in order to make routes safer or more convenient.

ACTIVITY

Small groups of students obtain or are provided with maps of local community and are given written instructions to

1. Orient themselves to the map by identifying familiar points, such as their homes and schools. Mark these on the map.

2. Identify one to three trips they, their friends, or the townspeople would like to be able to make by bicycle. These might be trips from home to school, home to shopping centers or lakes, or just scenic trips. Since they do not all live in the same house or even neighborhood, they may have to compromise on the starting point for their route.

3. Decide as a group what they want in a bike route in terms of safety, convenience, and fun. Develop a check list under each of these items--for example, under safety you might have wide streets, few cars, and low speed limits.

4. Plot on the map the best bicycle route for making the trip, keeping in mind their checklist. It is necessary that they be familiar with all the streets they may want to use on your route so that all possible dangers can be avoided.

5. Decide on how and when to take a test bicycle ride over the route(s) they have picked. They may want to divide up or all go together on the trip(s). Then test drive the routes, looking for the items they identified in relation to safety, convenience, and fun.

When each group has completed its test drives, the groups reform and compare notes about their routes--whether they are viable bike routes, whether some parts of the routing need to be changed (and if so, how) or whether there is a good bike route between the points they identified. Each group then reports its routes to the class. The class selects one or two routes it feels would be most used by the community's bicyclers and breaks into small groups, each one of which develops its own strategy for publicizing or making safe those routes. Different groups can, for example

- Draw routes on a community map, reproduce the map, write up commentary for it, and distribute copies to classmates or community residents

- Prepare and give a presentation to the police department informing it that there may be increased use of bicycles along these routes and asking what police and bicyclers can do to make those routes safe for bicyclists

- Prepare and give a presentation to the relevant community officials asking to have the routes identified in community literature and on street signs as bicycle routes (it may be possible to have a separate bike lane marked off or built)

- Prepare and give a presentation to local news media asking them to publicize the routes

- Prepare a brochure for dissemination by bicycle dealers to inform new bicycle owners about available bike routes

Each group reports to the class about its publicity efforts, and considers what further actions, if any, need to be taken to make the routes safe for bicycling.

Evaluation Methods:

Students poll classmates or bicyclists in the community one month after the activity to determine whether these individuals are aware of the routes and use them.

Students present the results of their efforts to a bicycle club for evaluation.

Variations and Supplementary Activities:

This activity can be adapted to the issue of bicycle parking facilities.

Students can plan a bicycle path in their community.

ASSESSMENT ACTIVITIES

The four activities that follow are designed for use as evaluation tools before and after you use one or more of the preceding mini-units or activities.

The first activity enables you to assess, before using one or more units, what topics and issues related to bicycles and bicycling your students are interested in studying. The information you glean from the activity will help guide your selection of mini-units and activities to use.

The second activity is a course-assessment exercise that will enable you to learn what your students liked and didn't like about the mini-units or activities you have used.

The third activity contains questions designed to reveal student attitudes toward various issues related to bicycles and bicycling.

The final activity consists of a series of essay, multiple choice and true-false questions you can ask your students in order to evaluate how much they learned from the mini-units or activities you implemented. You can also administer the questions before you teach about bicycles and bicycling as well as afterward, and compare results. In any case, use only those questions that treat topics your students will be studying or have studied.

ASSESSMENT ACTIVITIES

Activity #	*Activities*	*Class Time*
44	DESCRIPTION: You and the students evaluate class concerns about attitudes toward bicycles.	½ period
45	DESCRIPTION: Students evaluate the course.	½-1 period
46	DESCRIPTION: You and the students evaluate student attitudes toward various subjects covered in the course, including bicycle purchase, bicycle maintenance, redress of grievances, and bicycle safety.	1-4 periods
47	DESCRIPTION: Students respond to written or oral questions on topics covered in the course.	½-5 periods

ACTIVITY #44

Assessment Activity — Approximate Class Time: ½ period

Capsule Activity Description: You and the students evaluate class concerns about attitudes toward bicycles.

ACTIVITY

Students answer questions designed to reveal their concerns about bicycles and bike riding. Sample questions appear on the following page.

The attitude test should be answered anonymously to allow students to feel free to express their real feelings. Students should be told in advance that there are no right or wrong answers.

Variation and Supplementary Activity:

Students create their own questions either individually or in small groups, and other students answer them.

Do you have problems with any of the following bicycle situations? (Check all that apply.)

	No Problems	*Some Problems*	*Many Problems*
Buying a bicycle			
Selling a bicycle			
Repairing a bicycle yourself			
Having a bicycle repaired			
Performing routine maintenance on a bicycle			
Deciding what kind of bike to buy			
Seeking redress of grievances when a bike hasn't been repaired properly or if you feel you were overcharged			
Riding in traffic			
Riding at night			
Riding safely			
Not having bike paths on which to ride			
Not having some-place safe to park a bike when you ride somewhere			
Not knowing how to use a bike except for fun			

	No Problems	*Some Problems*	*Many Problems*
Not knowing what accessories to buy for a bike			
Not knowing how to keep a bike from being stolen			
Not knowing how much money to spend on a bike			
Not knowing which side of the road to ride on			
Not knowing whether to buy a one-, three-, or ten-speed bike			
Not knowing local bicycle registration requirements			

The best way to handle these situations or problems is (check all that apply):

None of them can be solved _____

By getting honest politicians _____

By getting honest salesmen, repairmen, businessmen, etc. _____

By educating the public to be wise purchasers and users _____

By passing laws to correct abuses _____

By letting everyone solve his own problems _____

Other (specify):

_____

_____

_____

_____

_____

_____

_____

A course on bicycles could help me most if it

Dealt with the following specific bicycle topics (specify):

_____

_____

_____

_____

_____

_____

_____

Let me study what I want, but assisted me to do so effectively by (specify):

_____

_____

_____

_____

_____

Used (check all that apply):

Art _____

Audiovisuals _____

Debates _____

Discussions:

Small group _____

Class _____

Drama:

Role-plays _____

Games _____

Field trips _____

Independent study _____

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Interviews _____

Lectures _____

Polls _____

Reading _____

Research _____

Peer teachers _____

Volunteer work _____

Writing _____

Is there anything else you would like to see used? _____

_____

_____

_____

ACTIVITY #45

Assessment Activity

Approximate Class Time: ½-1 period

Capsule Activity Description: Students evaluate the course.

ACTIVITY

Students write responses to questions designed to reveal to you and them whether the course objectives were achieved and, if they were not, how they can be in the future. Sample questions appear on the following pages.

After answering the questions, the class can break up into small groups or discuss as a class the value of the course and how to improve it, based on the students' written responses.

Variation and Supplementary Activity:

Students can participate in writing questions for the class to answer.

Course Evaluation Questions for Students

What did you gain from this course? Check as many or few of the following as apply:

_____Only a review of well known facts

_____A few new useful facts

_____Much new useful information

_____Better understanding of (fill in what the course covered)

_____Desire to go more deeply into study of (fill in the topics covered)

_____Some new and important attitudes toward (fill in the topics covered)

_____Change in my personal use of bicycles or my reactions to other people's use of bicycles

_____Other

From which part of the study do you feel you learned well?

_____Preparation of homework assignment

_____Individual reading

_____Oral reports

_____Written reports

_____Lectures

_____Role-plays

_____Games

_____Individual projects

_____Guest speakers

_____Debates

_____Small group discussions

_____Class discussions

_____Field trips

_____Audiovisual aids

_____Other activities (list)

What is your opinion concerning the amount of time spent in this study?

_____ Too much _____Too little _____About right

From which books and pamphlets did you learn the most?

From which games did you learn the most?

From which role-plays did you learn the most?

What questions or topics had you hoped would be included in the study that were not?

What suggestions do you have for improving the course?

Do you feel that materials covered in this class was unnecessarily repetitive of those covered in another class or classes? If so, what materials do you feel were repetitive?

What do you think are the greatest needs in bicycle education?

After having considered very carefully what you have learned during this course, have you changed your mind or made a choice concerning your personal use of bicycles? If so, what?

ACTIVITY #46

Assessment Activity Approximate Class Time: 1-4 periods

Capsule Activity Description: You and the students evaluate student attitudes toward various subjects covered in the course, including bicycle purchase, bicycle maintenance, redress of grievances, and bicycle safety.

ACTIVITY

Students answer questions designed to diagnose their attitudes on four subjects, including

- Bicycle maintenance and repair
- Bicycle facilities and organizations
- Redress of grievances concerning bicycle purchase, etc.
- Bicycle safety

Attitude tests should be answered anonymously so that students will feel free to express their real feelings.

Answers may reflect ignorance, indifference, reasoned thought, traumatic personal experiences, or other factors. There are no right or wrong answers.

Variation and Supplementary Activity:

Students can create their own attitude questions either individually or in small groups, and other students can answer them.

The following are sample questions to evaluate students' attitudes toward maintaining and repairing a bicycle. Students check the appropriate column that indicates most accurately their feelings about the question.

Question	*Agree Strongly*	*Agree*	*No Opinion*	*Disagree*	*Disagree Strongly*
Most bicycle mechanics are dishonest.					
There's no way you can stop a bicycle mechanic from cheating you.					
If you try to make major repairs on your bike yourself, you'll probably mess things up.					
There are a few important maintenance tasks that any bike owner can do.					
Maintaining a bike properly makes it less likely you'll have troubles with it later on.					
There's really nothing useful the average bike owner can do to keep his bike in good condition.					
There's no way of keeping one's bike from being stolen.					
Using the right kind of lock can do a lot to keep your bike from getting stolen.					
When you buy a new bike, you just have to take a chance on getting a lemon.					

Question	*Agree Strongly*	*Agree*	*No Opinion*	*Disagree*	*Disagree Strongly*
When you get a bike repaired and the repair shop does a lousy job, there's really nothing you can do about it.					

The following are sample questions to evaluate students' attitudes toward community bicycle facilities and organizations. Students check the appropriate column that indicates most accurately their feelings about the question.

Question	*Agree Strongly*	*Agree*	*No Opinion*	*Disagree*	*Disagree Strongly*
Bikes are good for some people for going to work and home.					
People who ride bikes to work and home are weird.					
Having special paths by the side of roads would be a good thing for bike riders.					
It would be nice if there were more safe places for bike riders to park their bikes.					
Bike paths by the side of the road would be nice but they're not worth spending money on.					
Our community does not need any bike paths.					

Question	*Agree Strongly*	*Agree*	*No Opinion*	*Disagree*	*Disagree Strongly*
Our community doesn't need any special places to park bikes.					
There's no way we can persuade the government or town to build us bike paths.					
If we really tried, we probably could get the town to build some bike paths.					
The best way to get the town to build bike paths is to write letters and meet with the town officials.					
The best way to get the town to build bike paths is to hold some demonstrations.					

The following are sample questions to evaluate students' attitudes toward redress of grievances. Students check the appropriate column that indicates most accurately their feelings about the question.

Question	*Agree Strongly*	*Agree*	*No Opinion*	*Disagree*	*Disagree Strongly*
There's nothing you can do about a repairman who cheats you.					
If you buy a bicycle that has something wrong with it, there are things you can do to make the bike shop fix it for nothing.					
A good way to get action when you feel a merchant has done something unfair is to complain to his boss.					
It is sometimes useful to picket a merchant's shop or home if you feel he has cheated or been unfair to you.					
It's a waste of time and effort trying to get a salesperson to repair something that he sold you that's defective.					
A repairman who fixes something for you which still doesn't work should have to fix it again for nothing.					

The following are sample questions for evaluating students' attitudes toward bicycle safety. Students check the appropriate column that indicates most accurately their feelings about the question.

Question	*Agree Strongly*	*Agree*	*No Opinion*	*Disagree*	*Disagree Strongly*
There's not much danger in riding a bike in traffic.					
Most bike accidents take place because the rider wasn't careful.					
Most bike accidents take place because some automobile driver didn't look where he was going.					
There's not much a bike rider can do to make riding safer. It's out of his control.					
Bike riders should ride down the street facing the traffic so they can see what's coming before it's too late.					
Keeping your bike in good condition helps to make riding safer.					
Most of our bicycle laws are sensible.					
Most bike riders don't know what the bike laws are.					
Most bike riders don't obey the bicycle laws.					

Question	Agree Strongly	Agree	No Opinion	Disagree	Disagree Strongly
Pedestrians should watch out for bicycles and get out of their way.					
Bicycling is healthy.					

ACTIVITY #47

Assessment Activity Approximate Class Time: 4-5 periods

Capsule Activity Description: Students respond to written or oral questions on topics covered in the course.

ACTIVITY

Students answer written or oral questions on five topics:

- Bicycle purchase
- Bicycle maintenance and repair
- Bicycle facilities and organizations
- Redress of grievances concerning bicycle purchase, etc.
- Bicycle safety

Sample questions appear on the following pages.

Variation and Supplementary Activity:

Students can develop their own questions individually or in groups, and other students can answer them.

The following are sample questions on bicycle purchase. Correct answers to multiple-choice questions are in italics.

Essay Questions

1. What considerations does a bicycle buyer need to take into account in deciding what kind of bike he should buy?

2. Of the considerations a bicycle buyer should take into account in buying a bicycle, which involve safety, which convenience, which cost, and which luxury?

3. When a bicycle purchaser walks into a store ready to buy a bicycle, what steps should he go through before he agrees to purchase one? Why are these steps important?

4. After buying a bicycle, what accessories can the purchaser consider buying? Which accessories may be needed or desired for reasons of safety, convenience, and luxury?

5. In buying a used bicycle, what should the purchaser examine to make sure the bike is in reasonably good condition?

6. What three steps should a buyer take in determining from which store to purchase a bicycle?

Multiple-Choice Questions

1. The first step in buying a bike is

   (a) Visiting a bike shop to find out bicycle prices
   (b) Asking friends how satisfied they are with the bikes they've bought
   (c) Selecting a good bicycle store
   (d) Deciding how you intend to use the bicycle

2. Which of the following items is *not* important to consider when deciding what kind of bike to buy?

   (a) Deciding how many gears to want
   (b) Checking the frame for defects
   (c) Selecting a price range
   (d) Choosing the style of bike (racing, etc.)
   (e) None of above

3. When buying bikes for younger children, which of the following safety and cost considerations should a buyer *not* be concerned about?

   (a) How long will the child be able to use the bike before he or she outgrows it
   (b) Selecting a bike sturdy enough to take kids' rough use

(c) *Buying a modern, banana-seat, high-handlebar bike that the child won't be ashamed of*
(d) Selecting the right frame size

4. When a buyer has decided what kind of bicycle to buy and is in the store deciding whether to buy it, he should do which of the following:

(a) Examine the warranty
(b) Select the right bicycle size
(c) Test ride the bicycle
(d) (b) and (c)
(e) All of the above

5. It is useful to examine the tires on a bicycle one is buying for many reasons. Which of the following is *not* an important reason for examining them?

(a) They may be in bad condition.
(b) They may be sew-ups--tires that puncture easily.
(c) They may not have enough air in them.
(d) (b) and (c).

6. In deciding how many speeds or gears to have on the bike you buy, it is important to consider

(a) Whether you will be riding up hills
(b) How roughly you will be treating the bike
(c) Whether the extra gears are worth the extra money to you
(d) All of the above

7. You can buy a good new bicycle--one that will last many years and will not fall apart--for

(a) $25 to $40
(b) $75 to $125
(c) $125 to $200
(d) All of the above
(e) (b) and (c)

8. The most important reason for buying accessories for a bike is

(a) Safety
(b) Fun
(c) Comfortable ride
(d) Good looks
(e) All of the above (equally important)

9. All of the following accessories should be considered because they contribute to safe riding except for

(a) Lights
(b) Reflectors
(c) Locks
(d) Trouser-cuff clips

The following are sample questions on bicycle maintenance and repair. Correct answers to multiple-choice questions are in italics.

Essay Questions

1. What simple maintenance tasks can the ordinary bicycle owner perform on his bicycle? *(Lubrication, tire care, tightening bolts, adjusting brakes, keeping bicycle dry)*

2. Why is it important that bike owners take regular care of their bike? *(Safety, riding ease, lengthening life of the bike, avoiding breakdowns on the road)*

Multiple-Choice Questions

1. It is important to maintain proper tire pressure for many reasons. Which of the following is *not* a good reason for maintaining proper tire pressure?

   (a) Incorrect tire pressure makes tires more likely to get cut by glass.
   (b) Proper tire pressure makes for easier riding.
   (c) Too little air can result in damage to tire rims.
   (d) Too much air in tires can result in their bursting.

2. The best way to fill tires is to

   (a) Set a gas station pump at the proper setting and then fill the tires until the chimes stop.
   (b) Use a hand pump and keep feeling the tires until they seem firm.
   (c) Asking a gas station attendant to fill them for you.
   (d) Use a hand pump or gas station pump and check the tire pressure constantly with a hand gauge.

3. Bicycles need lubrication or oiling on all of the following parts except

   (a) The spokes
   (b) Derailleur
   (c) Chain
   (d) Pedal

4. Major oiling points should be lubricated approximately

   (a) Once a year
   (b) Twice a year
   (c) Once a month
   (d) Twice a week

5. The best way to find out what parts on a bike need oiling is to

(a) Look on the bike for oil holes.
(b) Ask a friend who owns the same kind of bike what parts to oil.
(c) Wait until a part squeaks and then oil it.
(d) Read the owner's manual.

6. After riding a bike in the rain,

(a) Wipe it dry with a dry cloth.
(b) Wipe it with a damp cloth.
(c) Wipe it with a mixture of five parts water to one part ammonia.
(d) Let it dry in the sun.
(e) You don't have to do anything; bikes don't rust.

7. Bike owners can't perform any important maintenance tasks on their bikes because

(a) They have no way of knowing what they should do.
(b) They are liable to do the wrong ching and damage the bike.
(c) Bikes don't need regular maintenance.
(d) It's better to let bike shops do all maintenance tasks--they know what they're doing.
(e) None of the above.

8. Performing regular maintenance on one's bike is important because of which of the following reasons?

(a) Bike riding will be safer.
(b) Bike riding will be easier.
(c) Bikes will last longer.
(d) Bike breakdowns will be limited.
(e) (b), (c), and (d).
(f) All of the above.

9. If bike owners want to make their own repairs on their bikes, they should do which of the following things?

(a) Buy and carefully read a good book on bicycle repair.
(b) Buy good tools for making repairs.
(c) Use a well ventilated room with lots of air.
(d) Test the results of their repairs before taking a bike trip.
(e) (a) and (d).
(f) All of the above.

10. Which of the following are helpful in preventing bike thefts?

(a) Riding a beat-up old bike.
(b) Using a lock.
(c) Leaving the bike within view at all times.
(d) Asking someone to keep an eye on the bike until you return.
(e) All of the above.

11. The two best methods of preventing bike thefts are

    (a) Locking the bike and keeping an eye on it.
    (b) Locking the bike and riding a beat-up old bike.
    (c) Riding a beat-up old bike and keeping an eye on it.
    (d) None of the above; there's no way to help prevent bike thefts.

The following are sample questions on bicycle facilities and organizations. Correct answers to multiple-choice questions are in italics.

Essay Questions

1. What are the major types of bicycle facilities?

2. What are the differences between bikeways, bike lanes, and bike paths?

3. What are the advantages and disadvantages of bikeways, bike lanes, and bike paths?

4. What kind of bicycle parking facilities would best serve bicyclists? Where should they be located? What should they consist of? Why?

5. What different kinds of purposes can bike facilities serve? Which of these purposes is the most important? Why?

6. How can a community or individual decide what bicycle facilities are needed?

7. How can a community, group of individuals, or single person go about obtaining needed or desired bicycle facilities? Discuss this problem in general. Then take a specific bicycle facility you feel your community needs and discuss what the most effective method(s) are for obtaining that facility.

8. Are bike-ins, rallies, or other demonstrations ethical ways of exerting pressure to obtain bicycle facilities? Why or why not? If only sometimes, when?

9. What are the major recreational activities that bicyclists can form clubs to promote?

10. What are the two major types of touring? What are the advantages and disadvantages of each? What equipment is needed for each?

11. What are some of the different types of bicycle races that bicyclists can engage in?

12. What are some of the games cyclists can play? What equipment is needed for each? How safe are they? How can any safety hazards be eliminated or minimized?

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13. What were some of the early attitudes toward bicycles? Why have they changed?

Multiple-Choice Questions

1. A bikeway is best defined as

   (a) A bike lane with white lines
   (b) A regular street that bikes can also use
   (c) A separate path just for bicycles
   (d) A way of biking that keeps the wind behind you

2. Bicycle riding is safest when done on

   (a) Bikeways
   (b) Bike lanes
   (c) Bike paths
   (d) Regular streets

3. Parking facilities for bicycles should be all of the following except

   (a) Expensive
   (b) Well lighted
   (c) Convenient
   (d) Metal

4. Bicycle facilities are useful for many reasons. In the following list, which statement does *not* explain the value of bicycle facilities?

   (a) They make riding safer.
   (b) They are less expensive than roads.
   (c) They make riding more convenient.
   (d) They make it harder to steal bikes.

5. There are two major kinds of bicycle touring:

   (a) Speed touring and easy-going touring
   (b) Cross-country touring and back-yard touring
   (c) Tricycle touring and unicycle touring
   (d) Camping touring and tourist touring

6. In organizing bicycle games, cyclists should consider all of the following except

   (a) Safety
   (b) Clothing
   (c) Condition of bicycle
   (d) Hubcaps

The following are sample questions on redress of bicycle grievances.

1. What three issues must be addressed by someone who is considering seeking redress of a grievance?

2. Assume that you had your bicycle brakes repaired, but they still don't work when you get home.

   (a) Would you do anything about this?
   (b) If not, why not? If so, what would you do?
   (c) Why would you choose that particular course of action in seeking redress of your grievance?

3. Discuss any three methods of redress of grievance in terms of

   (a) The conditions (grievances) that would cause you to use them
   (b) Whether you think they would be effective and why
   (c) Whether you feel that you have the ethical right to use them

The following are questions on bicycle safety. Correct answers to multiple-choice questions are in italics.

Essay Questions

1. If you had a son and a daughter ____ years old (stipulate age), what restrictions, if any, would you set on their bicycle behavior, and why?

2. What would you do if you found your son and daughter, who are ____ years old (stipulate age),

   (a) Riding on the wrong side of the road
   (b) Riding on the handlebars of a friend's bike
   (c) Riding a friend on the handlebars of his or her (son's or daughter's) bike
   (d) Jumping the front wheel off the ground
   (e) Riding on a heavily traveled street

3. What are the best methods for coping with pressures from friends to bike unsafely?

4. Why do people exert pressure on others to bike unsafely?

5. Have you actually used anything that you learned in this course in your private life? Did you, for example, make any decisions that were influenced in any way by something you learned in the course? If so, what? If not, why do you think you have not?

Multiple-Choice Questions

1. Bicycle accidents are

   (a) Rare
   (b) Common but not serious
   (c) Common and often serious
   (d) An unknown: no one knows how common or serious they are

2. Bicycle riders are killed

   (a) Never--but there are a lot of injuries
   (b) Rarely--a few dozen a year
   (c) Occasionally--around 50 a year
   (d) Quite often--about three every day

3. Riding against the traffic is a good idea because

   (a) You can see the traffic before it gets to you.
   (b) Cars can see you before they get too close.
   (c) Cars and bikes get a better view of each other on curves.
   (d) All of the above.
   (e) None of the above.

4. Riding with the traffic is a good idea because

   (a) Cars do not look for traffic coming down the wrong side of a street.
   (b) If a cyclist crashes into a car, their combined speed is worse than if they were going in the same direction.
   (c) It helps prevent running into cars who hug the inner side of the road on curves.
   (d) All of the above.
   (e) None of the above.

5. Speeding can be dangerous for which of the following reasons? *(Check all that are correct.)*

   (a) High winds created by going too fast will knock you over.
   (b) Your hair will fly in your face and prevent you from seeing where you're going.
   (c) It will be more difficult for you to avoid potholes and glass.
   (d) Dogs are more likely to chase and bite you.
   (e) *It will be harder to stop suddenly for traffic or pedestrians.*

6. When riding at night, as opposed to daytime, it is especially important to

   (a) Wear light-colored clothing
   (b) Carry front and rear lights
   (c) Ride into the traffic
   (d) Ride with the traffic
   (e) Ride more slowly
   (f) (a), (b), and (c)
   (g) (a), (b), (d), and (e)
   (h) (a), (b), and (e)

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7. The best way to handle a dog who attacks a cyclist is to

   (a) Yell at him
   (b) Ignore him
   (c) Kick him
   (d) Reach down and pat him
   (e) Try to run him over

8. Which of the following is an unsafe bicycle habit?

   (a) Riding with the traffic
   (b) Riding two abreast on the road
   (c) Stopping for every stop sign
   (d) Slowing down for blinking yellow lights
   (e) None of the above is unsafe

9. Which of the following "safety" ideas is actually dangerous?

   (a) Looking out for doors opening on parked cars.
   (b) Watching out for drains in the road.
   (c) Listening for cars coming behind you.
   (d) Riding in the middle of the street to avoid glass.
   (e) They are all dangerous.

10. It may be important to register your bike for safety reasons because

   (a) If it's lost or stolen, you stand a better chance of getting it back.
   (b) If you are injured, police or doctors will have an easier time contacting your relatives.
   (c) If you break the law, police can identify who you are.
   (d) It's required by law.

BIBLIOGRAPHY

The Bibliography section contains teaching materials for teachers and students. It consists of selected references to

- Curriculum guides
- Background readings for teachers
- Student materials
- Audiovisual materials
- Periodicals

The individual entries are presented in the following format:

**	*Title of Work*, author, date of publication. Number of pages or list of materials. Price.
Type of Material	Description of material with evaluation of material's quality (except for audiovisual materials and supplementary materials) and relevance for bicycle education. Source from which material may be obtained.*

For purposes of convenience the teacher and student materials sections have been rated by the designation of stars next to the title of the material (see example above). The stars represent the following evaluation:

No stars:	material is useful, but fair
(*) One star:	material is good
(**) Two stars:	material is very good
(***) Three stars:	material is excellent

It should be kept in mind that these evaluations are an estimation of the material's *quality and relevance*.** As such, the absence of teaching material of a low rating does not *per se* indicate the material is poor. It may be excellent but simply not very relevant. In addition, any absences may be due to the authors' oversight.

At the end of the bibliography is a list of government agencies that can be contacted for further information about transportation and the environment.

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*Allow ten weeks for delivery of items ordered from the U.S. Government Printing Office.

**A complete discussion of the criteria used to evaluate the materials may be found at the end of the Bibliography.

CURRICULUM GUIDES

National Safety Council Catalogue, 1977-1978. 85 pages. Free.

Catalogue — Comprehensive catalogue on all aspects of safety, including bicycles. Included are listings of booklets, manuals, films and filmstrips, and posters.

National Safety Council
425 North Michigan Avenue
Chicago, IL 60611

* *Guide for Leaders: 4-H Bicycle Program, 1971.* 19 pages. Free.

Guide — Detailed suggestions for 4-H leaders, but equally useful for teachers, on how to teach a unit on bicycles. Guide includes list of study topics, suggested "meeting plans" (activities using bicycles, outdoors for the most part); suggested riding activities (e.g., balancing, signaling, entering highways); favorite bike games and races; and a bicycle inspection form and quiz. Guide is primarily designed for use outdoors with each student having his or her own bicycle. Suggested bike games and races have been included in *Pedal On!*

U.S. Department of Agriculture
Extension Service
Washington, DC 20250

Bicycling: A Bicycle Safety Instruction Guide for Teachers, 1966. 23 pages. Free in Pennsylvania.

Booklet — Curriculum outline for teachers providing factual outlines on accidents, selection, care and maintenance, riding skills, and traffic regulations. No classroom activities provided.

Commonwealth of Pennsylvania
Department of Public Instruction
Harrisburg, PA

** *Teacher's Guide to Bicycle Safety Activities and Projects* (not dated). 12 pages.

Pamphlet — Series of creative activities, many spelled out in detail, on bicycle safety. Illustrated. See *Bicycle Safety Program Aids*, below.

American Automobile Association
Traffic Engineering and Safety Department
1712 G Street, N.W.
Washington, DC 20006
Stock No. 3218

Bicycle Safety Curriculum Guide (not dated). 27 pages.
Free.

Guide — Includes expected outcomes and teacher suggestions for classroom activities on bicycle purchase, traffic rules, safe driving, night driving, and maintenance. Activities are few and not detailed. Bicycle safety checklists and purchase considerations checklist are very useful.

The University of the State of New York
The State Education Department
Division of General Education
Albany, NY 12224

Bicycle Safety in Action, 1964. 39 pages.

Pamphlet — Teacher guide that discusses relating bicycle safety to classroom instruction and curriculum development. Factual information is provided on history of bicycles, purchase, maintenance, and safety. Some classroom activities are suggested but these are only one-sentence descriptions.

National Education Association
1201 Sixteenth Street, N.W.
Washington, DC 20036

BACKGROUND READINGS FOR TEACHERS

** *Bicycles: Safety Education Data Sheet Number 1* (not dated). 7 pages.

Pamphlet Informative discussion of statistics, types, and causes of bicycle accidents.

National Safety Council
425 North Michigan Ave.
Chicago, IL 60611

* *Bicycle Safety Program Aids* (not dated). Ten pamphlets and three posters. 11¢.

Packet Folder of materials on bicycle safety and use. Included also are a pamphlet to parents on buying their children a bicycle, the results of an AAA survey on the nature and causes of bicycle accidents, a bicycle skill tests pamphlet (well illustrated and described), and a bicycle inspection check list.

The American Automobile Association
1712 G Street, N.W.
Washington, DC 20006
Stock Number 3289

Bicycling and Bicycle Trails, a Trail's and Trail Based Activities Bibliography, 1971. 31 pages. $3.00.

Bibliography Bibliography of books and articles on various aspects of bicycling. Index is conveniently arranged by topic, with largest number of entries being history, safety, and trails. Somewhat outdated due to the great number of bicycle publications since 1971.

National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Road
Springfield, VA 22151

* *Bicycle Safety Tests and Proficiency Course* (not dated). 23 pages. Free.

Pamphlet Series of detailed proficiency and safety tests riders can practice. A model inspection form for bike maintenance is also provided.

Bicycle Manufacturers Association
1101 15th Street, N.W.
Washington, DC 20005

Model Bicycle Ordinance (not dated). 10 pages.

Flyer — Standard bicycling regulations excerpted verbatim from the Uniform Vehicle Code and the Model Traffic Ordinance. See *Bicycle Safety Program Aids*, above.

American Automobile Association
1712 G Street, N.W.
Washington, DC 20006
Stock No. 3206

** *Bikes*, by Stephen C. Henkel, 1972. 189 pages. $1.25.

Paperback — Comprehensive, somewhat "establishment" account of bike styles, purchasing a bike, learning to ride, maintenance and repair, safety, and "having fun." Profusely and very well illustrated. Sections on do-it-yourself maintenance and repairs are especially good.

Bantam Books, Inc.
666 Fifth Avenue
New York, NY 10019

** *The Bicycle Book*, Bob Boethling (ed.), 1971. 63 pages. $1.50.

Paperback — Gamey and well formatted advice on a variety of bicycle topics, including buying a bicycle, bikeways, theft, recreational cycling organizations, legal problems, and maintenance. Not well illustrated.

Price/Stern/Sloan Publishers, Inc.
410 North Cienega Boulevard
Los Angeles, CA 90048

*** *The Bike Book*, by Bibs McIntyre, 1974. 262 pages. $1.25.

Paperback — Excellent discussion of how to buy and maintain and safely ride a bicycle. Unusual chapters deal informatively with how to prevent theft, how to work up to a fifty-mile trip, and which accessories "would you really use." Exceptionally good resources section including list of local, state, and national bicycle clubs, racing organizations and clubs, and American Youth Hostel local council offices.

Pyramid Communications, Inc.
919 Third Avenue
New York, NY 10022

** *Anybody's Bike Book*, by Tom Cuthbertson, 1971 (revised, 1973). 176 pages. $3.00 plus 25¢ postage.

Paperback Illustrated, easy-to-read, well organized manual of bike repairs for the amateur and serious enthusiast.

Ten Speed Press
Box 4310
Berkeley, CA 94704

** *The Clear Creek Bike Book*, 1972. 179 pages. $2.95.

Paperback Informative, but somewhat meandering description of bicycle history, how to buy, ride and repair a bicycle, safety issues, and racing and touring. Unusual are the two sections on the history of bicycles and health benefits from bicycling. The section on "Politics" is an especially useful discussion of how to influence the development of bikeways and parking facilities for bikes. Excellent photographs.

The New American Library, Inc.
1301 Avenue of the Americas
New York, NY 10002

** *Richard's Bicycle Book*, by Richard Ballantine, 1972. 249 pages. $1.95.

Paperback Profusely and well illustrated account of how to maintain and repair a touring bicycle. Discussions of how to buy and ride a bike are included.

Ballantine Books, Inc.
201 East 50th Street
New York, NY 10022

** *Consumer Guide: Bicycles: Complete Buying Guide*, 1972. 384 pages. $1.50.

Paperback Detailed evaluation of bicycles arranged by age and price based on actual road testing. Book also includes discussion of bicycle safety considerations and how to buy a bike. Interesting sections are provided on the health benefits of bike riding and detailed rules for bicycle polo. List of bicycle clubs by state is included.

Popular Library
355 Lexington Avenue
New York, NY 10017

** *Bike Tripping*, by Tom Cuthbertson, 1972. 172 pages. $3.00.

Paper-back Lively, informative account of how to take bike trips in terms of safety, the weather, where to go, and equipment to carry. Book also discusses learning to ride and purchasing a bike. Illustrated.

Ten Speed Press
Box 4310
Berkeley, CA 94704

Bicycling for Recreation and Commuting, 1972. 26 pages.

Pamphlet Simple overview of bicycling safety, trails, and history.

Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402

What Everyone Should Know About Bicycles, 1965. 15 pages.

Pamphlet — Brief overview of bicycle safety. Utility is limited because of moralistic and injunctive approach. Topics include bicycle parts, history, uses, rules of the road, and care. Some students may find cartoon format condescending or childish. Part of a series of ten pamphlets on highway traffic safety.

Channing L. Bete Co., Inc.
45 Federal Street
Greenfield, MA 01301

** *The Bicycle Book*, by Lillian and Godfrey Frankel, 1972. $1.50.

Paperback — Useful account of how to select, repair, care for, and ride a bicycle. Bike trips, tours, clubs, and camping are also discussed. Section on bicycle games (22 pages) is especially complete and creative. Illustrated.

Cornerstone Library
Simon and Schuster
630 Fifth Avenue
New York, NY 10020

A Great Bicycle Book, by Jane Sarnoff and Reynold Ruffins, 1973. 31 pages. $5.95.

Book — Children's book on parts of a bicycle, fitting the bike to the rider, maintenance, and racing games. Illustrated in bright colors, but otherwise book does not contain anything particularly stimulating for children.

Charles Scribner's Sons
597 Fifth Avenue
New York, NY 10017

* *Skill Tests for Pedal Pushers* (not dated). 6 pages. Free.

Flyer — Ten detailed bicycle skill tests with scoring system for each and summary score sheet. Tests are for determining safety skill levels but may also be conducted as contests for fun.

National Safety Council
425 North Michigan Ave.
Chicago, IL 60611

The Bike Book (not dated). 7 pages. Free.

Flyer Illustrated brief tips to youngsters on bicycle maintenance and safety.

National Council Safety
425 N. Michigan Avenue
Chicago, IL 60611

National Directory of Safety Films, 1971. 60 pages. $3.50.

Catalogue

Capsule descriptions of safety films that can be rented from the National Safety Council; however, none are evaluated and many are included that are either poor or mediocre. The reader must take pot luck and preview all films ordered before using with students. Most of the films listed below are taken from this catalogue.

National Safety Council
425 North Michigan Avenue
Chicago, IL 60611

The Bicycle Clown. 10 minutes, color or black and white. 66 mm.

Film

Describes some of the reasons behind a youngster's reckless bike riding.

National Safety Council
425 Michigan Avenue
Chicago, IL 60611

Bicycle Riding Reminders. 11 minutes, color, 16 mm, rental.

Film

A police vehicle demonstrates reaction time, braking distances, etc., when autos and bicycles are involved. Film gives basic bicycle safety points for younger children.

National Safety Council
425 North Michigan Avenue
Chicago, IL 60611

Bicycle Rules of the Road. 11 minutes, color, 16 mm.

Film

A dramatic demonstration emphasizes driver reaction time and the stopping distances of both automobiles and bicycles. Staged collision tests, using slow-motion photography, forcibly demonstrate what happens when an automobile impacts with a bicycle at 25 and 47 mph.

National Safety Council
425 North Michigan Avenue
Chicago, IL 60611

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Bicycle Safety. Color, 35mm.

Film — Illustrates where to learn to ride; what rules to follow when riding during the day, at night, and in the rain; how to prevent tire damage; and how to carry packages on a bike.

National Safety Council
425 North Michigan Avenue
Chicago, IL 60611

Bicycle Safety Skills. 11 minutes, color or black and white, 16mm.

Film — Film stresses idea that safe bicycling habits will carry over into adult driving behaviors.

National Safety Council
425 North Michigan Avenue
Chicago, IL 60611

Bicycle Today--Automobile Tomorrow. 10 minutes, color, 16mm.

Film — A boy is shown by a motorcycle police officer how he should check his bicycle for mechanical soundness. Children demonstrate the importance of knowing the correct bicycle rules and safety regulations before riding in traffic.

National Safety Council
425 North Michigan Avenue
Chicago, IL 60611

Bicycling with Compete Safety. 10 minutes, 16mm.

Film — Film on bicycling safety for adults and children.

National Safety Council
425 North Michigan Avenue
Chicago, IL 60611

The Bicyclist. 15 minutes, color, 16mm.

Film — Bicycle safety education for school-age children. A red bicycle tells its own story. It has had two owners--a boy who knew and obeyed the traffic rules and another who didn't.

National Safety Council
425 North Michigan Avenue
Chicago, IL 60611

Championship Bicycle Safety. 13 minutes, color, 16 mm.

Film — Fast-paced film that relates the cycling skills of the champs to the skills needed in everyday cycling situations, with emphasis on the idea that it takes practice to ride like a pro. Includes clowns riding antique bikes in a local rodeo who demonstrate the need for watchfulness to avoid hazards.

National Safety Council
425 North Michigan Avenue
Chicago, IL 60611

The Day the Bicycle Disappeared. 14 minutes, color, 16 mm.

Film — When all the bicycles in town suddenly disappear, it turns out that they are protesting the hazardous riding of their owners. Not until each rider signs a safe bicycling pledge do the bikes agree to go home.

National Safety Council
425 North Michigan Avenue
Chicago, IL 60611

If Bicycles Could Talk. 13 minutes, color, 16 mm.

Film — Covers all aspects of bicycle safety and maintenance, as well as the role of parents in preparing youngsters for bicycle ownership.

National Safety Council
425 North Michigan Avenue
Chicago, IL 60611

I'm No Fool with a Bicycle. 8 minutes, color, 16 mm.

Film — History of the bicycle leads into a discussion of the rules for bicycle riding. For elementary grades.

National Safety Council
425 North Michigan Avenue
Chicago, IL 60611

A Monkey Tale--Bicycle Safety. 9 minutes, black and white, 16 mm.

Film — Illustrates bicycle safety by using monkeys as actors. A monkey goes to school on his bike. He barely makes it without an accident. When he goes home he and his sister have a bad fall because he let her ride on the handlebars. Irate citizens complain and a lecture from a policeman makes him

see his bad habits. Next day he practices all the safety measures and receives a reward for safety. For elementary school levels.

National Safety Council
425 North Michigan Avenue
Chicago, IL 60611

One Got Fat. 17 minutes, color, 16mm.

Film — Ten bicycle-riding monkeys are going to the park for a picnic. Each has a personal characteristic that impels him to break a law regarding bicycle safety. As a result, only one arrives at the park.

National Safety Council
425 North Michigan Avenue
Chicago, IL 60611

7 Rules of Bicycle Safety. 6½ minutes, color, 16mm.

Film — A short positive-approach film on bicycle safety for elementary age children. Only the right way to ride is shown as seven rules accepted by safety experts everywhere are illustrated.

National Safety Council
425 North Michigan Avenue
Chicago, IL 60611

Two Wheels Toward Safety. 20 minutes, color, 16mm.

Film — Film shows how bicycle accidents are reduced through education in a community effort in Nassau County in New York.

National Safety Council
425 North Michigan Avenue
Chicago, IL 60611

You and Your Bicycle. 11 minutes, black and white, 16mm.

Film — The narrator gives tips on proper bicycle care as well as safety rules to follow while riding. Aimed at secondary levels.

National Safety Council
425 North Michigan Avenue
Chicago, IL 60611

You and Your Bicycle. 10½ minutes, black and white, 16mm.

Film — Teaches children correct riding habits. Starts with points of safety maintenance, then shows hazards encountered on a trip to the store for Mom. Shows correct arm signals, how to carry bundles, where to park, when and where to ride, results of stunting, passing improperly, hitching rides and riding double. For kindergarten through fourth grade.

National Safety Council
425 North Michigan Avenue
Chicago, IL 60611

PERIODICALS

Periodicals are a rich source of information on the use and purchase of bicycles and bicycle facilities and on the availability and location of additional materials on bicycles. Even general consumer periodicals, like *Consumer Reports* and *Changing Times*, contain in many issues articles on bicycles. It was impossible, however, to provide here a list of relevant articles that have appeared in the recent past in periodicals. Moreover, the subscriber or reader cannot know in advance when a periodical will print an article that will interest him. Despite these drawbacks, many teachers and students will find it useful to subscribe to or read library copies of periodicals in the expectation that they will discover articles or references to additional materials of immediate relevance to their teaching or research efforts. The more specifically a periodical is related to his particular interest, of course, the more likely is the reader to find relevant materials. Teachers and readers can also consult in libraries the *Reader's Guide to Periodical Literature* for past articles about bicycles.

American Bicyclist
461 Eighth Avenue
New York, New York 10001

Bicycle Journal
3339 West Freeway
Fort Worth, Texas 76107

Bicycling
119 Paul Drive, Box 3330
San Rafael, California 94902

Bike World
Post Office Box 366
2536 Middlefield Road
Mountain View, California 94040

Boom in Bikeways
Bicycle Manufacturers Association
1101 15th Street, N.W.
Washington, D.C. 20005

League of American Wheelmen Bulletin
19 S. Bothwell Street
Palatine, Illinois 60067

Transpo Topics for Consumers
Department of Transportation
Office of the Treasury
Washington, DC 20590

BIBLIOGRAPHY EVALUATION CRITERIA

All teacher and student materials that were located were evaluated along two dimensions: *quality and relevance*. Quality was defined to include the following components:

- Provision of creative and detailed classroom activities or learning experiences that go beyond the one- or two-sentence "have the student do *x, y, z*" suggestions
- Development of decision-making skills that may be transferable to other consumer issues
- Attention to affective educational approaches and objectives, not merely cognitive ones
- Emphasis on student initiative and involvement in classroom activities and in the planning of those activities
- A concern-centered approach that predicates learning on the assessment of student concerns and the development and use of classroom activities that initially deal with those concerns
- The provision of a lucid conceptual framework of bicycle consumer education by which teachers can grasp the field and the interrelationships of its components and by which teachers can develop additional activities and units of their own
- A modular, flexible approach that enables teachers to develop activities and units tailored to the needs of their particular students and community
- Provision of accurate factual information
- A nonmoralistic, noninjunctive approach
- Stress on the needs and problems of minority groups
- An interdisciplinary approach to consumer education

Few curriculum materials combined all these quality ingredients. Many included none or a few. In some borderline cases where a teaching material contained some quality ingredients, the authors made a subjective evaluation on whether the material contained *enough* of these elements to warrant referencing in the module.

To be considered relevant, a teaching material had to deal in a significant way with bicycle education from the point of view of or useful to a consumer. Teaching materials were excluded from the module when their relevance was extremely limited or nonexistent because

- Only a small section of the material dealt with bicycle consumer issues. However, such materials were included when a subsection was of high caliber, dealt with an important aspect of bicycles not covered elsewhere, or was part of an easily accessible and inexpensive unit.
- The material was extremely specific--it dealt with too narrow an aspect of an issue to be useful to teachers or students except in highly specialized courses or units.
- The material was designed for a highly specialized audience.
- The material was oriented strictly toward career education.
- The material was outdated.
- The material contained information that applied primarily or significantly to a local situation.
- The material was not distributed out of state.

FEDERAL AGENCIES WITH RESPONSIBILITY OR INTEREST IN BICYCLING

You may write to the following government agencies for bicycling information:

Federal Highway Administration
U.S. Department of Transportation
Washington, DC 20590

National Highway Traffic Safety Administration
U.S. Department of Transportation
Washington, DC 20590

Bureau of Outdoor Recreation
U.S. Department of the Interior
Washington, DC 20240

National Park Service
U.S. Department of the Interior
Washington, DC 20240

Environmental Protection Agency
401 M Street, S.W.
Washington, DC 20460

4-H Bicycle Program
U.S. Department of Agriculture
Washington, DC 20250

U.S. Consumer Product Safety Commission
5401 Westbard Avenue
Washington, DC 20207

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SPIRIT MASTER #1: FOR USE WITH ACTIVITIES #1 & #15

Bicycle Experience Poll

(Circle correct answer)

1. Are you a male or a female? Male Female

2. Have you ever ridden a bicycle? Yes No

3. If so, how many times in the last month?
   Once 2-4 5-10 11-20 Over 20 times

4. If you ride, do you ride with other people?
   Never Sometimes Usually Always

5. Have you ever ridden "sidesaddle"? Never Occasionally Often

6. Have you ever had someone ride on the handlebars of your bike?
   Never Occasionally Often

7. If you own a bicycle, does it have a reflector? Yes No
   Does it have a light? Yes No

8. Have you ever ridden a bicycle at night without lights?
   Never Occasionally Often

9. If you ride at night, do you wear light-colored clothing?
   Never Occasionally Often

10. Do you wear bicycle clips? Yes No

11. Have you ever ridden while high on alcohol or drugs?
    Never Occasionally Often

12. Do you usually ride with the traffic or into it?
    Into it With it It varies

13. Do you stop for red lights? Never Sometimes Always
    Do you stop for stop signs? Never Sometimes Always

14. When you make a turn, do you signal which way you are going to turn?
    Never Occasionally Often

15. Do you consider yourself a safe bicycle rider?
    Very safe Safe Somewhat safe Unsafe

16. Have you ever been in a bike accident where you were hurt?
    Never Once 1-4 times More than 4 times

17. If you have been in a bike accident, what happened? *(Circle as many as apply.)* Hit by a car...Hit by another bicycle...Hit another person, car, or bicycle...Something else.

18. If you have been in a bike accident, what caused it? *(Circle all that apply.)* Riding too fast...Didn't stop for a red light or stop sign...Didn't signal for a turn...riding in the middle of the street... It was the other person's fault...Some other reason *(say what it was)*.

START	Ride with the traffic B	Ride against the traffic P	LOSE ONE TURN	Slow down for blinking yellow lights	Signal for a lefthand turn	Ride "side-saddle"	GO AGAIN	Wear ordinary clothing at night B	Use lights at night
Look around to see if cars are coming									Try to Kick angry dogs P
LOSE ONE TURN									Keep single file
Make sure pedestrians get out of your way B									Listen to see if cars are coming behind you
Force cars coming out of driveways to stop for you									LOSE ONE TURN
Ride in traffic in case you need assistance									Speed up when going thru sand P
									Look out for opening doors on parked cars

B *Bonus*

"Bonus" on a box means you may lay down 2 correct cards instead of just one.

P *Penalty*

"Penalty" on a box means you must lose a turn *if* you laid down an incorrect card and were correctly challenged to remove it. Losing a turn is in *addition* to removing the incorrect card.

Rules:

1. Each player receives 12 cards, 6 safe and 6 unsafe.
2. Roll die to determine first player; move clockwise in turn after that.
3. Throw die to find out number of boxes to move.
4. Each box represents a situation involving bicycling. *You* decide if the situation describes safe or unsafe bicycling.
5. When you land on a box, lay down the correct kind of bicycling card--safe or unsafe.
6. If you land on a box already covered by a card, better luck next turn! Next player moves.
7. If you land on a box requiring a kind of bicycle card you've run out of, better luck next turn! Next player moves.
8. *Challenges:* If you think another player has laid down an incorrect card, you may challenge. If you're right, you get to lay down the right card. He removes his. If you're wrong, original player may put an additional correct card on top of first.

Winner: Player who uses up all his cards first, or has fewest left at end of game, is the winner.

Apply brakes vigorously in wet weather	GO AGAIN	Stop for all red lights	Obey the traffic laws that make sense	Check brakes after each trip	LOSE ONE TURN	Speed up in rain to avoid puddles B	Swerve to avoid glass P	Ride over drains across the bars	GO AGAIN

SPIRIT MASTER #3: FOR USE WITH ACTIVITIES #4 & #20

PLAYER 1		*PLAYER 2*		*PLAYER 3*		*PLAYER 4*	
SAFE 1	SAFE 1	SAFE 2	SAFE 2	SAFE 3	SAFE 3	SAFE 4	SAFE 4
SAFE 1	SAFE 1	SAFE 2	SAFE 2	SAFE 3	SAFE 3	SAFE 4	SAFE 4
SAFE 1	SAFE 1	SAFE 2	SAFE 2	SAFE 3	SAFE 3	SAFE 4	SAFE 4
UNSAFE 1	UNSAFE 1	UNSAFE 2	UNSAFE 2	UNSAFE 3	UNSAFE 3	UNSAFE 4	UNSAFE 4
UNSAFE 1	UNSAFE 1	UNSAFE 2	UNSAFE 2	UNSAFE 3	UNSAFE 3	UNSAFE 4	UNSAFE 4
UNSAFE 1	UNSAFE 1	UNSAFE 2	UNSAFE 2	UNSAFE 3	UNSAFE 3	UNSAFE 4	UNSAFE 4

Purchase Considerations*

Potential bicycle purchasers can base their selection upon their riding proficiency, the intended use of the bicycle, the amount of use anticipated, the presence or absence of safety features, the ease of use, good workmanship, and the availability of replacement parts and repair service.

The following checklist may be of help.

	Brand A	*Brand B*	*Brand C*	*Brand D*
Frame Styles				
Lightweight				
Medium weight				
Heavy duty				
Folding				
Girls/boys				
Frame Size				
Handlebar Types				
Drop style				
High-rise				
Tourist				
Brakes				
Caliper, front				
Caliper, rear				
Caliper, front/rear				
Coaster				
Seat Styles				
Banana				
Bucket				
Racer				
Mattress				
Touring				

	Brand A	*Brand B*	*Brand C*	*Brand D*
Pedal Styles				
Flat				
Trap				
Gears/Ratios				
Constant				
Shifting:				
3-speed				
5-speed				
10-speed				
15-speed				
Wheel Sizes				
Front				
Rear				
Tire Types				
Thinwall/racer				
Touring				
Tractor				
Slicks				
Fenders				
Full				
Partial				
None				
Weight/Total				
Special Equipment Options				

*Text and chart are from *Bicycle Safety Curriculum Guide*. (University of the State of New York, State Education Department, Division of General Education)

SPIRIT MASTER #5: FOR USE WITH ACTIVITIES #7 & #31

Instructions for Playing Bicycle Parts Game

1. Cut out the cards and paste them on cardboard or 3 x 5 cards.

2. Shuffle cards and deal them to players, five cards to a player. Leave rest of deck face down on the table.

3. Game is then played like gin rummy. Each player draws one card from the deck and decides whether he wants to keep it. If he keeps it, he must discard another card. If not, he discards the card he picked. Discarded cards are placed face up, one next to the other.

4. If a player wants, he may take his turn by picking up a card from the discarded series of cards. However, in doing so, he must also take into his hand all those cards that were discarded after the one he wants. When picking up a discarded card or cards, the player must still discard one card before the next player takes his turn.

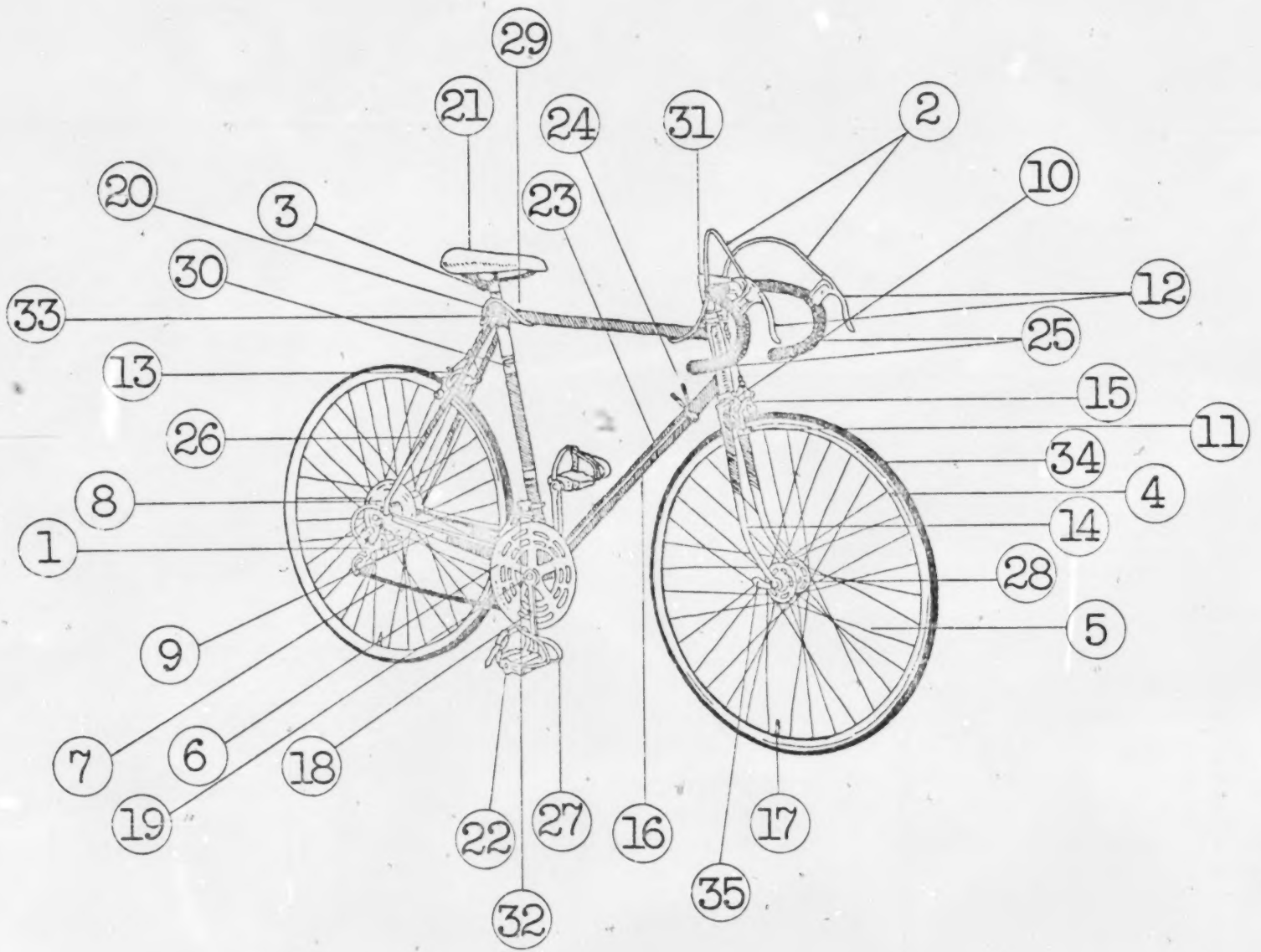
5. The object of the game is to meld (combine) cards in series of three that correspond to three numbers in a row on the bicycle diagram. In order to do this, the player must be able to identify the part described on his cards on the diagram. For example, if a player has cards for the Rear Derailleur, Brake Cable, and Seat Post (Numbers 1, 2, and 3), he may meld them.

6. Whenever a player melds a series of three cards, he earns three points. However, his meld may be challenged by any other player if another player feels the parts are not what the melder thought they were. Such a challenge must be made before the next player takes his turn. Successful challenges earn the challenger 2 points; incorrect challenges earn the melder an additional 2 points, while the challenger loses 2 points. You can arbitrate challenges.

7. There are ten cards with *Write in Your Own Part* on them. Players who draw these cards may write in any bicycle part of their choice, but they must do so immediately before the next player takes his turn. Any meld with one of these cards is worth four points, instead of the usual three.

8. Game play ends when all cards are used up (an unlikely event) or when one player has melded all his cards. At this time, players count up their points. Winner is player with highest number of points.

SPIRIT MASTER #6: FOR USE WITH ACTIVITIES #7 & #31



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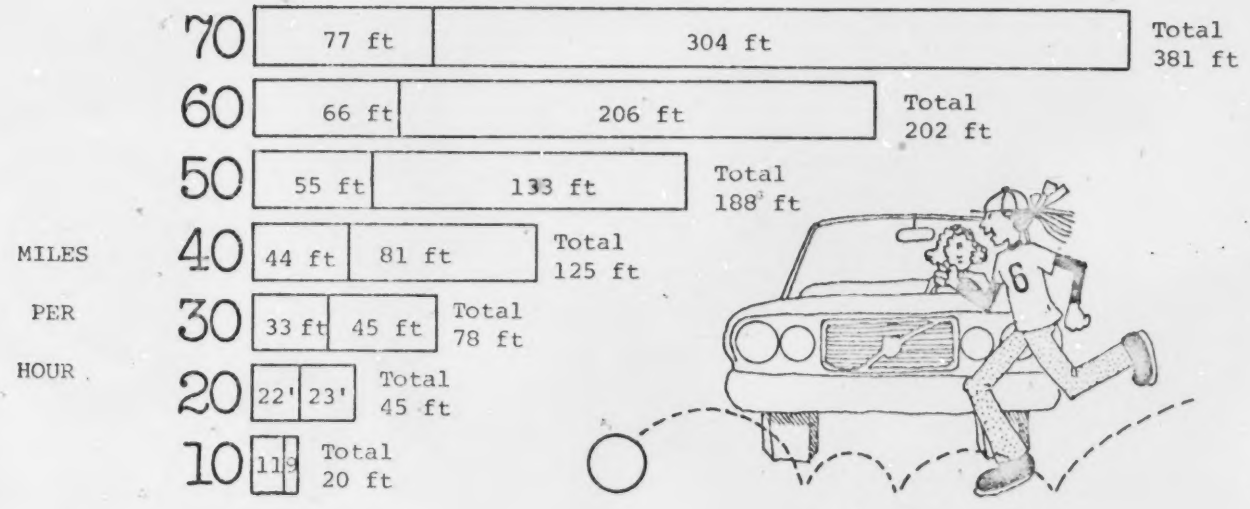
Minimum Stopping Distances



SPIRIT MASTER #8: FOR USE WITH ACTIVITY #34

Bicycle Inspection Check Chart[a]

Item Inspected	*Lubricate*	*Tighten*	*Adjust*	*Repair/ Replace*	*Approved*
Frame tubes					
Fork blades true					
Handlebar tight					
Extension tight					
Grips tight					
Bar height, angle					
Saddle height, angle					
Seat post					
Fit, bicycle					
Steering head					
Crank bearings					
Cranks, cotters					
Drive sprocket					
Driven sprocket					
Chain					
Pedals (complete)					
Pedal bearings					
Mudguards, braces					
Carriers					
Cleanliness 100%					
Wheel nuts--F & R					
Wheel bearings					
Hub, rear bearings					
Brake operation					
Tire condition--F & R					
Rims--Front & Rear					
Spokes--Front & Rear					
Tire inflation					
Hand brakes					
Brake & gear cables					
Brake & gear levers					
Gear shifter					
Speedometer					
Generator (batteries)					
Headlight					
Tail light					
Reflector					
Signal Device					

[a]From *Bicycle Safety Tests*, Bicycle Institute of America, New York, page 8.